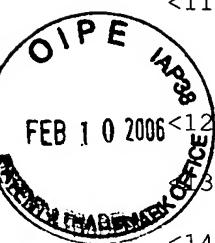


REC'D PCT/PCTO 10 FEB 2006

SEQUENCE LISTING



FEB 10 2006 <120> NOVEL PROTEIN AND USES THEREOF

<130> 0933-0246PUS1

<140> US 10/537,102
<141> 2005-06-02

<150> US 60/433,011
<151> 2002-12-13

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Leu Ser Leu Leu Phe Glu Val Ala Arg Ala Gly Arg Ala Val Val
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agc tgt cct gcc gcc tgc ttg tgc gcc agc aac atc ctc agc tgc tcc 144
Ser Cys Pro Ala Ala Cys Leu Cys Ala Ser Asn Ile Leu Ser Cys Ser
35 40 45

aag cag cag ctg ccc aat gtg ccc cat tcc ttg ccc agt tac aca gca 192
Lys Gln Gln Leu Pro Asn Val Pro His Ser Leu Pro Ser Tyr Thr Ala
50 55 60

cta ctg gac ctc agt cac aac ctg agc cgc ctg cggt gcc gag tgg 240
Leu Leu Asp Leu Ser His Asn Asn Leu Ser Arg Leu Arg Ala Glu Trp
65 70 75 80

acc ccc acg cgc ctg acc caa ctg cac tcc ctg ctg ctg agc cac aac 288
Thr Pro Thr Arg Leu Thr Gln Leu His Ser Leu Leu Ser His Asn
85 90 95

cac ctg aac ttc atc tcc tct gag gcc ttt tcc ccg gta ccc aac ctg 336
His Leu Asn Phe Ile Ser Ser Glu Ala Phe Ser Pro Val Pro Asn Leu
100 105 110

cgc tac ctg gac ctc tcc aac cag ctg cgt aca ctg gat gag ttc		384	
Arg Tyr Leu Asp Leu Ser Ser Asn Gln Leu Arg Thr Leu Asp Glu Phe			
115	120	125	
ctg ttc agt gac ctg caa gta ctg gag gtg ctg ctg ctc tac aat aac		432	
Leu Phe Ser Asp Leu Gln Val Leu Glu Val Leu Leu Tyr Asn Asn			
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His Ile Met Ala Val Asp Arg Cys Ala Phe Asp Asp Met Ala Gln Leu			
145	150	155	160
cag aaa ctc tac ttg agc cag aac cag atc tct cgc ttc cct ctg gaa		528	
Gln Lys Leu Tyr Leu Ser Gln Asn Gln Ile Ser Arg Phe Pro Leu Glu			
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Ser Ser Asn Lys Leu Lys Asn Leu Pro Leu Pro Asp Leu Gln Lys Leu			
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Cys Asp Cys Glu Leu Tyr Gln Leu Phe Ser His Trp Gln Tyr Arg Gln			
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ctg agc tcc gtg atg gac ttt caa gag gat ctg tac tgc atg aac tcc		768	
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Lys Lys Leu His Asn Val Phe Asn Leu Ser Phe Leu Asn Cys Gly Glu			
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275	280	285	
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Ser Asn Glu Arg Val Leu Asp Glu Val Thr Asn Gly Thr Val Ser Val			
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tct aag gat ggc agt ctt ctt ttc cag cag gtg cag gtc gag gac ggt		1008	
Ser Lys Asp Gly Ser Leu Leu Phe Gln Gln Val Gln Val Glu Asp Gly			
325	330	335	

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355	360	365	
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Thr Leu Asn Thr Ala Tyr Thr Thr Leu Val Gly Cys Ile Leu Ser Val			
370	375	380	
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Val Leu Val Leu Ile Tyr Leu Tyr Leu Thr Pro Cys Arg Cys Trp Cys			
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Arg Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu Ser Ser			
405	410	415	
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Ser Met Leu Ser Thr Pro Asn His Asp Pro Met Ala Gly Gly Asp			
420	425	430	
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Lys Asp Asp Gly Phe Asp Arg Arg Val Ala Phe Leu Glu Pro Ala Gly			
435	440	445	
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Pro Gly Gln Gly Gln Asn Gly Lys Leu Lys Pro Gly Asn Thr Leu Pro			
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465	470	475	480
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His Leu Asn Phe Ile Ser Ser Glu Ala Phe Ser Pro Val Pro Asn Leu		
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115	120	125
Leu Phe Ser Asp Leu Gln Val Leu Glu Val Leu Leu Leu Tyr Asn Asn		
130	135	140
His Ile Met Ala Val Asp Arg Cys Ala Phe Asp Asp Met Ala Gln Leu		
145	150	155
Gln Lys Leu Tyr Leu Ser Gln Asn Gln Ile Ser Arg Phe Pro Leu Glu		
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Leu Val Lys Glu Gly Ala Lys Leu Pro Lys Leu Thr Leu Leu Asp Leu		
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Ser Ser Asn Lys Leu Lys Asn Leu Pro Leu Pro Asp Leu Gln Lys Leu		
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Pro Ala Trp Ile Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Asn		
210	215	220
Cys Asp Cys Glu Leu Tyr Gln Leu Phe Ser His Trp Gln Tyr Arg Gln		
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Lys Lys Leu His Asn Val Phe Asn Leu Ser Phe Leu Asn Cys Gly Glu		
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275	280	285
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ttt tcc aca act cca aat ttg aag tgt ctt gac tta tcg tcc aat aag		384	
Phe Ser Thr Thr Pro Asn Leu Lys Cys Leu Asp Leu Ser Ser Asn Lys			
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Val Leu Leu Tyr Asn Asn His Ile Ser Tyr Leu Asp Pro Ser Ala			
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Phe Gly Gly Leu Ser Gln Leu Gln Lys Leu Tyr Leu Ser Gly Asn Phe			
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ctc aca cag ttt ccg atg gat ttg tat gtt gga agg ttc aag ctg gca		576	
Leu Thr Gln Phe Pro Met Asp Leu Tyr Val Gly Arg Phe Lys Leu Ala			
180	185	190	
gaa ctg atg ttt tta gat gtt tct tat aac cga att cct tcc atg cca		624	
Glu Leu Met Phe Leu Asp Val Ser Tyr Asn Arg Ile Pro Ser Met Pro			
195	200	205	
atg cac cac ata aat tta gtg cca gga aaa cag ctg aga ggc atc tac		672	
Met His His Ile Asn Leu Val Pro Gly Lys Gln Leu Arg Gly Ile Tyr			
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gtc ttt tgg tat cgt agg cac ttt agc tca gtg atg gat ttt aag aac		768	
Val Phe Trp Tyr Arg Arg His Phe Ser Ser Val Met Asp Phe Lys Asn			
245	250	255	
gat tac acc tgt cgc ctg tgg tct gac tcc agg cac tcg cgt cag gta		816	
Asp Tyr Thr Cys Arg Leu Trp Ser Asp Ser Arg His Ser Arg Gln Val			
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Leu Leu Leu Gln Asp Ser Phe Met Asn Cys Ser Asp Ser Ile Ile Asn			
275	280	285	
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Gly Ser Phe Arg Ala Leu Gly Phe Ile His Glu Ala Gln Val Gly Glu			
290	295	300	

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ttc atc tgg gtg ggt cca gat aac aga ctg cta gag ccg gat aaa gag Phe Ile Trp Val Gly Pro Asp Asn Arg Leu Leu Glu Pro Asp Lys Glu	325	330	335		1008
atg gaa aac ttt tac gtg ttt cac aat gga agt ctg gtt ata gaa agc Met Glu Asn Phe Tyr Val Phe His Asn Gly Ser Leu Val Ile Glu Ser	340	345	350		1056
cct cgt ttt gag gat gct gga gtg tat tct tgt atc gca atg aat aag Pro Arg Phe Glu Asp Ala Gly Val Tyr Ser Cys Ile Ala Met Asn Lys	355	360	365		1104
caa cgc ctg tta aat gaa act gtg gac gtc aca ata aat gtg agc aat Gln Arg Leu Leu Asn Glu Thr Val Asp Val Thr Ile Asn Val Ser Asn	370	375	380	.	1152
ttc act gta agc aga tcc cat gct cat gag gca ttt aac aca gct ttt Phe Thr Val Ser Arg Ser His Ala His Glu Ala Phe Asn Thr Ala Phe	385	390	395	400	1200
acc act ctt gct gct tgc gtg gcc agt atc gtt ttg gta ctt ttg tac Thr Thr Leu Ala Ala Cys Val Ala Ser Ile Val Leu Val Leu Leu Tyr	405	410	415		1248
ctc tat ctg act cca tgc ccc tgc aag tgt aaa acc aag aga cag aaa Leu Tyr Leu Thr Pro Cys Pro Cys Lys Cys Lys Thr Lys Arg Gln Lys	420	425	430		1296
aat atg cta cac caa agc aat gcc cat tca tcg att ctc agt cct ggc Asn Met Leu His Gln Ser Asn Ala His Ser Ser Ile Leu Ser Pro Gly	435	440	445		1344
ccc gct agt gat gcc tcc gct gat gaa cggt aag gca ggt gca ggt aaa Pro Ala Ser Asp Ala Ser Ala Asp Glu Arg Lys Ala Gly Ala Gly Lys	450	455	460		1392
aga gtg gtg ttt ttg gaa ccc ctg aag gat act gca gca ggg cag aac Arg Val Val Phe Leu Glu Pro Leu Lys Asp Thr Ala Ala Gly Gln Asn	465	470	475	480	
ggg aaa gtc agg ctc ttt ccc agc gag gca gtg ata gct gag ggc atc Gly Lys Val Arg Leu Phe Pro Ser Glu Ala Val Ile Ala Glu Gly Ile	485	490	495		1448
cta aag tcc acg agg ggg aaa tct gac tca gat tca gtc aat tca gtg Leu Lys Ser Thr Arg Gly Lys Ser Asp Ser Asp Ser Val Asn Ser Val	500	505	510		1536
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 35 40 45

Thr Asp Ile Val Ser Cys Thr Asn Lys Asn Leu Ser Lys Val Pro Gly
 50 55 60

Asn Leu Phe Arg Leu Ile Lys Arg Leu Asp Leu Ser Tyr Asn Arg Ile
 65 70 75 80

Gly Leu Leu Asp Ser Glu Trp Ile Pro Val Ser Phe Ala Lys Leu Asn
 85 90 95

Thr Leu Ile Leu Arg His Asn Asn Ile Thr Ser Ile Ser Thr Gly Ser
 100 105 110

Phe Ser Thr Thr Pro Asn Leu Lys Cys Leu Asp Leu Ser Ser Asn Lys
 115 120 125

Leu Lys Thr Val Lys Asn Ala Val Phe Gln Glu Leu Lys Val Leu Glu
 130 135 140

Val Leu Leu Leu Tyr Asn Asn His Ile Ser Tyr Leu Asp Pro Ser Ala
 145 150 155 160

Phe Gly Gly Leu Ser Gln Leu Gln Lys Leu Tyr Leu Ser Gly Asn Phe
 165 170 175

Leu Thr Gln Phe Pro Met Asp Leu Tyr Val Gly Arg Phe Lys Leu Ala
 180 185 190

Glu Leu Met Phe Leu Asp Val Ser Tyr Asn Arg Ile Pro Ser Met Pro
 195 200 205

Met His His Ile Asn Leu Val Pro Gly Lys Gln Leu Arg Gly Ile Tyr
 210 215 220

Leu His Gly Asn Pro Phe Val Cys Asp Cys Ser Leu Tyr Ser Leu Leu
 225 230 235 240

Val Phe Trp Tyr Arg Arg His Phe Ser Ser Val Met Asp Phe Lys Asn
 245 250 255

Asp Tyr Thr Cys Arg Leu Trp Ser Asp Ser Arg His Ser Arg Gln Val
 260 265 270

Leu Leu Leu Gln Asp Ser Phe Met Asn Cys Ser Asp Ser Ile Ile Asn
 275 280 285
 Gly Ser Phe Arg Ala Leu Gly Phe Ile His Glu Ala Gln Val Gly Glu
 290 295 300
 Arg Leu Met Val His Cys Asp Ser Lys Thr Gly Asn Ala Asn Thr Asp
 305 310 315 320
 Phe Ile Trp Val Gly Pro Asp Asn Arg Leu Leu Glu Pro Asp Lys Glu
 325 330 335
 Met Glu Asn Phe Tyr Val Phe His Asn Gly Ser Leu Val Ile Glu Ser
 340 345 350
 Pro Arg Phe Glu Asp Ala Gly Val Tyr Ser Cys Ile Ala Met Asn Lys
 355 360 365
 Gln Arg Leu Leu Asn Glu Thr Val Asp Val Thr Ile Asn Val Ser Asn
 370 375 380
 Phe Thr Val Ser Arg Ser His Ala His Glu Ala Phe Asn Thr Ala Phe
 385 390 395 400
 Thr Thr Leu Ala Ala Cys Val Ala Ser Ile Val Leu Val Leu Tyr
 405 410 415
 Leu Tyr Leu Thr Pro Cys Pro Cys Lys Cys Lys Thr Lys Arg Gln Lys
 420 425 430
 Asn Met Leu His Gln Ser Asn Ala His Ser Ser Ile Leu Ser Pro Gly
 435 440 445
 Pro Ala Ser Asp Ala Ser Ala Asp Glu Arg Lys Ala Gly Ala Gly Lys
 450 455 460
 Arg Val Val Phe Leu Glu Pro Leu Lys Asp Thr Ala Ala Gly Gln Asn
 465 470 475 480
 Gly Lys Val Arg Leu Phe Pro Ser Glu Ala Val Ile Ala Glu Gly Ile
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ggg tta ggc acc ccg gac tcc gag ggt ttc ccg ccc cgt gcg ctc cac 96
Gly Leu Gly Thr Pro Asp Ser Glu Gly Phe Pro Pro Arg Ala Leu His
20 25 30

aac tgc ccc tac aaa tgt atc tgc gct gcc gac ctg cta agc tgc act 144
Asn Cys Pro Tyr Lys Cys Ile Cys Ala Ala Asp Leu Leu Ser Cys Thr
35 40 45

ggc cta ggg ctg cag gac gtg cca gcc gag tta cct gcc gct act gcg 192
Gly Leu Gly Leu Gln Asp Val Pro Ala Glu Leu Pro Ala Ala Thr Ala
50 55 60

gac ctc gac ctg agc cac aac gcg ctc cag cgc ctg cgc ccc ggc tgg 240
Asp Leu Asp Leu Ser His Asn Ala Leu Gln Arg Leu Arg Pro Gly Trp
65 70 75 80

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Leu Ala Pro Leu Phe Gln Leu Arg Ala Leu His Leu Asp His Asn Glu
85 90 95

cta gat gcg ctg ggt cgc ggc gtc ttc gtc aac gcc agc ggc ctg agg 336
Leu Asp Ala Leu Gly Arg Gly Val Phe Val Asn Ala Ser Gly Leu Arg
100 105 110

ctg ctc gat cta tca tct aac acg ttg cgg gcg ctt ggc cgc cac gac 384
Leu Leu Asp Leu Ser Ser Asn Thr Leu Arg Ala Leu Gly Arg His Asp
115 120 125

ctc gac ggg ctg ggg gcg ctg gag aag ctg ctt ctg ttc aat aac cgc 432
Leu Asp Gly Leu Gly Ala Leu Glu Lys Leu Leu Leu Phe Asn Asn Arg
130 135 140

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145 150 155 160

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His Leu Tyr Leu Gly Cys Asn Glu Leu Ala Ser Phe Ser Phe Asp His
165 170 175

ctg cac ggt ctg agc gcc acc cac ctg ctt act ctg gac ctc tcc tcc 576
Leu His Gly Leu Ser Ala Thr His Leu Leu Thr Leu Asp Leu Ser Ser
180 185 190

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Asn Arg Leu Gly His Ile Ser Val Pro Glu Leu Ala Ala Leu Pro Ala
195 200 205

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Phe Leu Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp

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ccg gcc atg cgc att gcc tgg gtt tcg ccg cag cag gag ctt ctc agg Pro Ala Met Arg Ile Ala Trp Val Ser Pro Gln Gln Glu Leu Leu Arg 305 310 315 320			960
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ttc acc aca ctg ctg ggc tgt gcc gtg ggc ctt gtg ctc gtg ctg ctc Phe Thr Thr Leu Leu Gly Cys Ala Val Gly Leu Val Leu Val Leu 385 390 395 400			1200
tac ctg ttc gcc cca ccc tgc cgc tgc tgc cgt gcc tgc cgc tgc Tyr Leu Phe Ala Pro Pro Cys Arg Cys Cys Arg Arg Ala Cys Arg Cys 405 410 415			1248
cgc cgc tgg ccc caa aca ccc agc ccg ctc caa gag ctg agc gca cag Arg Arg Trp Pro Gln Thr Pro Ser Pro Leu Gln Glu Leu Ser Ala Gln 420 425 430			1296
tcc tca gta ctc agc acc aca ccg cca gac gca ccc agc cgc aag gcc Ser Ser Val Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Arg Lys Ala 435 440 445			1344

agc gtc cac aag cac gta gtc ttt ctg gag cca ggc cg	agg ggc ctc	1392	
Ser Val His Lys His Val Val Phe Leu Glu Pro Gly Arg Arg Gly Leu			
450	455	460	
aat ggc cgc gtg cag ctg gca gta gct gag gaa ttc gat ctc tac aac		1440	
Asn Gly Arg Val Gln Leu Ala Val Ala Glu Glu Phe Asp Leu Tyr Asn			
465	470	475	480
cct gga ggc ctg cag ctg aag gct ggc tct gag tcc gcc agc tcc ata		1488	
Pro Gly Gly Leu Gln Leu Lys Ala Gly Ser Glu Ser Ala Ser Ser Ile			
485	490	495	
ggc tcc gag ggt ccc atg aca acc		1512	
Gly Ser. Glu Gly Pro Met Thr Thr			
500			

<210> 6
<211> 504
<212> PRT
<213> Homo sapiens

<400> 6			
Met Thr Trp Leu Val Leu Leu Gly Thr Leu Leu Cys Met Leu Arg Val			
1	5	10	15
Gly Leu Gly Thr Pro Asp Ser Glu Gly Phe Pro Pro Arg Ala Leu His			
20	25	30	
Asn Cys Pro Tyr Lys Cys Ile Cys Ala Ala Asp Leu Leu Ser Cys Thr			
35	40	45	
Gly Leu Gly Leu Gln Asp Val Pro Ala Glu Leu Pro Ala Ala Thr Ala			
50	55	60	
Asp Leu Asp Leu Ser His Asn Ala Leu Gln Arg Leu Arg Pro Gly Trp			
65	70	75	80
Leu Ala Pro Leu Phe Gln Leu Arg Ala Leu His Leu Asp His Asn Glu			
85	90	95	
Leu Asp Ala Leu Gly Arg Gly Val Phe Val Asn Ala Ser Gly Leu Arg			
100	105	110	
Leu Leu Asp Leu Ser Ser Asn Thr Leu Arg Ala Leu Gly Arg His Asp			
115	120	125	
Leu Asp Gly Leu Gly Ala Leu Glu Lys Leu Leu Leu Phe Asn Asn Arg			
130	135	140	
Leu Val His Leu Asp Glu His Ala Phe His Gly Leu Arg Ala Leu Ser			
145	150	155	160
His Leu Tyr Leu Gly Cys Asn Glu Leu Ala Ser Phe Ser Phe Asp His			
165	170	175	

Leu His Gly Leu Ser Ala Thr His Leu Leu Thr Leu Asp Leu Ser Ser
 180 185 190
 Asn Arg Leu Gly His Ile Ser Val Pro Glu Leu Ala Ala Leu Pro Ala
 195 200 205
 Phe Leu Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp
 210 215 220
 Cys Arg Leu Tyr His Leu Leu Gln Arg Trp His Gln Arg Gly Leu Ser
 225 230 235 240
 Ala Val Arg Asp Phe Ala Arg Glu Tyr Val Cys Leu Ala Phe Lys Val
 245 250 255
 Pro Ala Ser Arg Val Arg Phe Phe Gln His Ser Arg Val Phe Glu Asn
 260 265 270
 Cys Ser Ser Ala Pro Ala Leu Gly Leu Glu Arg Pro Glu Glu His Leu
 275 280 285
 Tyr Ala Leu Val Gly Arg Ser Leu Arg Leu Tyr Cys Asn Thr Ser Val
 290 295 300
 Pro Ala Met Arg Ile Ala Trp Val Ser Pro Gln Gln Glu Leu Leu Arg
 305 310 315 320
 Ala Pro Gly Ser Arg Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser
 325 330 335
 Leu Ala Ile Gly Asn Val Gln Glu Gln His Ala Gly Leu Phe Val Cys
 340 345 350
 Leu Ala Thr Gly Pro Arg Leu His His Asn Gln Thr His Glu Tyr Asn
 355 360 365
 Val Ser Val His Phe Pro Arg Pro Glu Pro Glu Ala Phe Asn Thr Gly
 370 375 380
 Phe Thr Thr Leu Leu Gly Cys Ala Val Gly Leu Val Leu Val Leu Leu
 385 390 395 400
 Tyr Leu Phe Ala Pro Pro Cys Arg Cys Cys Arg Arg Ala Cys Arg Cys
 405 410 415
 Arg Arg Trp Pro Gln Thr Pro Ser Pro Leu Gln Glu Leu Ser Ala Gln
 420 425 430
 Ser Ser Val Leu Ser Thr Thr Pro Pro Asp Ala Pro Ser Arg Lys Ala
 435 440 445
 Ser Val His Lys His Val Val Phe Leu Glu Pro Gly Arg Arg Gly Leu
 450 455 460
 Asn Gly Arg Val Gln Leu Ala Val Ala Glu Glu Phe Asp Leu Tyr Asn
 465 470 475 480

Pro Gly Gly Leu Gln Leu Lys Ala Gly Ser Glu Ser Ala Ser Ser Ile
485 490 495

Gly Ser Glu Gly Pro Met Thr Thr
500

<210> 7
<211> 1827
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ig-fusion
protein

<220>
<221> CDS
<222> (1)..(1827)

<400> 7
atg caa ccc cag cgt gac ctg cga ggc ctc tgg ctc ctg ctg ctc tcc 48
Met Gln Pro Gln Arg Asp Leu Arg Gly Leu Trp Leu Leu Leu Ser
1 5 10 15

gtg ttc ctg ctt ctc ttt gag gta gcc agg gcc ggc cga tct gtg gtt 96
Val Phe Leu Leu Phe Glu Val Ala Arg Ala Gly Arg Ser Val Val
20 25 30

agt tgt ccc gcc aac tgc ctg tgc gcc agc aac atc ctc agc tgc tcc 144
Ser Cys Pro Ala Asn Cys Leu Cys Ala Ser Asn Ile Leu Ser Cys Ser
35 40 45

aag cag cag ctg ccc aat gtg ccc caa tct ttg ccc agc tac aca gca 192
Lys Gln Gln Leu Pro Asn Val Pro Gln Ser Leu Pro Ser Tyr Thr Ala
50 55 60

ctg ctg gac ctc agc cac aac ttg agc agg ctg cgg gcc gag tgg 240
Leu Leu Asp Leu Ser His Asn Asn Leu Ser Arg Leu Arg Ala Glu Trp
65 70 75 80

acc ccc acc cgg ctg acc aac ctg cac tcc ctg ctg agc cac aac 288
Thr Pro Thr Arg Leu Thr Asn Leu His Ser Leu Leu Ser His Asn
85 90 95

cac ctg aac ttc atc tcc tcc gag gcc ttc gtc ccc gta ccc aac ctt 336
His Leu Asn Phe Ile Ser Ser Glu Ala Phe Val Pro Val Pro Asn Leu
100 105 110

agg tac ttg gac ctc tcc aac cat ctt cac acg ctg gat gag ttc 384
Arg Tyr Leu Asp Leu Ser Ser Asn His Leu His Thr Leu Asp Glu Phe
115 120 125

ctg ttc agc gac ctg cag gcg ctg gaa gtg ctg ttg ctc tac aat aac 432
Leu Phe Ser Asp Leu Gln Ala Leu Glu Val Leu Leu Tyr Asn Asn
130 135 140

cac att gtg gtg gtg gac cg ^g aat gcc ttt gag gac atg gcc cag ctg		480
His Ile Val Val Val Asp Arg Asn Ala Phe Glu Asp Met Ala Gln Leu		
145	150	155
160		
cag aaa ctc tac tta agc cag aat cag atc tct cgc ttt cct gtg gaa		528
Gln Lys Leu Tyr Leu Ser Gln Asn Gln Ile Ser Arg Phe Pro Val Glu		
165	170	175
ctg atc aag gat ggg aac aaa tta ccc aaa ctg atg ctc ttg gat ctg		576
Leu Ile Lys Asp Gly Asn Lys Leu Pro Lys Leu Met Leu Leu Asp Leu		
180	185	190
tcc tcc aac aag ctg aag aag ttg ccc ctg act gac ctg cag aaa ttg		624
Ser Ser Asn Lys Leu Lys Leu Pro Leu Thr Asp Leu Gln Lys Leu		
195	200	205
cca gcc tgg gtc aag aat ggg cta tac ctg cat aac aac ccc ttg gag		672
Pro Ala Trp Val Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Glu		
210	215	220
tgc gac tgc aag ctc tac cag ctc ttt tcg cac tgg cag tac cgg cag		720
Cys Asp Cys Lys Leu Tyr Gln Leu Phe Ser His Trp Gln Tyr Arg Gln		
225	230	235
240		
ctg agc tct gtg atg gac ttc cag gag gac ctg tac tgc atg cac tcc		768
Leu Ser Ser Val Met Asp Phe Gln Glu Asp Leu Tyr Cys Met His Ser		
245	250	255
aag aag ctg cac aac atc ttc agc ctg gat ttc ttc aat tgc agc gag		816
Lys Lys Leu His Asn Ile Phe Ser Leu Asp Phe Asn Cys Ser Glu		
260	265	270
tac aag gaa agt gcc tgg gag gct cac ctg gga gac acc ttg acc atc		864
Tyr Lys Glu Ser Ala Trp Glu Ala His Leu Gly Asp Thr Leu Thr Ile		
275	280	285
agg tgt gac acc aaa cag caa ggc atg acc aaa gtg tgg gtg tcc cca		912
Arg Cys Asp Thr Lys Gln Gln Gly Met Thr Lys Val Trp Val Ser Pro		
290	295	300
agc aat gaa cag gtg cta agt cag ggg tcc aat ggc tcg gtg agc gtg		960
Ser Asn Glu Gln Val Leu Ser Gln Gly Ser Asn Gly Ser Val Ser Val		
305	310	315
320		
agg aat ggc gac ctt ttt aaa aag gtg cag gtc gag gat ggg ggt		1008
Arg Asn Gly Asp Leu Phe Phe Lys Lys Val Gln Val Glu Asp Gly Gly		
325	330	335
gtg tat acc tgt tac gcc atg ggg gag act ttc aac gag aca ctg tct		1056
Val Tyr Thr Cys Tyr Ala Met Gly Glu Thr Phe Asn Glu Thr Leu Ser		
340	345	350
gtg gag ttg aaa gtg tat aac ttc acc ttg cac gga cac cat gac acc		1104
Val Glu Leu Lys Val Tyr Asn Phe Thr Leu His Gly His His Asp Thr		
355	360	365

ctc aac gga tcc gag gtg ctg ttc cag ggc ccc aaa tct tgt gac aaa Leu Asn Gly Ser Glu Val Leu Phe Gln Gly Pro Lys Ser Cys Asp Lys	370 375 380	1152
act cac aca tgc cca ccg tgc cca gca cct gaa ctc ctg ggg gga ccg Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro	385 390 395 400	1200
tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc atg atc tcc Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser	405 410 415	1248
cgg acc cct gag gtc aca tgc gtg gtg gac gtg agc cac gaa gac Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp	420 425 430	1296
cct gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag gtg cat aat Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn	435 440 445	1344
gcc aag aca aag ccg cgg gag gag cag tac aac agc acg tac cgg gtg Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val	450 455 460	1392
gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat ggc aag gag Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu	465 470 475 480	1440
tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc atc gag aaa Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys	485 490 495	1488
acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag gtg tac acc Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr	500 505 510	1536
ctg ccc cca tcc cgg gat gag ctg acc aag aac cag gtc agc ctg acc Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr	515 520 525	1584
tgc ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg gag tgg gag Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu	530 535 540	1632
agc aat ggg cag ccg gag aac aac tac aag acc acg cct ccc gtg ctg Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu	545 550 555 560	1680
gac tcc gac ggc tcc ttc ctc tac agc aag ctc acc gtg gac aag Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys	565 570 575	1728
agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg atg cat gag Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu	580 585 590	1776
gct ctg cac aac cac tac acg cag aag agc ctc tcc ctg tct ccg ggt		1824

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
595 600 605

aaa 1827
Lys

<210> 8
<211> 609
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ig-fusion
protein

<400> 8
Met Gln Pro Gln Arg Asp Leu Arg Gly Leu Trp Leu Leu Leu Ser
1 5 10 15

Val Phe Leu Leu Leu Phe Glu Val Ala Arg Ala Gly Arg Ser Val Val
20 25 30

Ser Cys Pro Ala Asn Cys Leu Cys Ala Ser Asn Ile Leu Ser Cys Ser
35 40 45

Lys Gln Gln Leu Pro Asn Val Pro Gln Ser Leu Pro Ser Tyr Thr Ala
50 55 60

Leu Leu Asp Leu Ser His Asn Asn Leu Ser Arg Leu Arg Ala Glu Trp
65 70 75 80

Thr Pro Thr Arg Leu Thr Asn Leu His Ser Leu Leu Leu Ser His Asn
85 90 95

His Leu Asn Phe Ile Ser Ser Glu Ala Phe Val Pro Val Pro Asn Leu
100 105 110

Arg Tyr Leu Asp Leu Ser Ser Asn His Leu His Thr Leu Asp Glu Phe
115 120 125

Leu Phe Ser Asp Leu Gln Ala Leu Glu Val Leu Leu Leu Tyr Asn Asn
130 135 140

His Ile Val Val Val Asp Arg Asn Ala Phe Glu Asp Met Ala Gln Leu
145 150 155 160

Gln Lys Leu Tyr Leu Ser Gln Asn Gln Ile Ser Arg Phe Pro Val Glu
165 170 175

Leu Ile Lys Asp Gly Asn Lys Leu Pro Lys Leu Met Leu Leu Asp Leu
180 185 190

Ser Ser Asn Lys Leu Lys Lys Leu Pro Leu Thr Asp Leu Gln Lys Leu
195 200 205

Pro Ala Trp Val Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Glu

210	215	220	
Cys Asp Cys Lys Leu Tyr Gln Leu Phe Ser His Trp Gln Tyr Arg Gln			
225	230	235	240
Leu Ser Ser Val Met Asp Phe Gln Glu Asp Leu Tyr Cys Met His Ser			
245	250	255	
Lys Lys Leu His Asn Ile Phe Ser Leu Asp Phe Asn Cys Ser Glu			
260	265	270	
Tyr Lys Glu Ser Ala Trp Glu Ala His Leu Gly Asp Thr Leu Thr Ile			
275	280	285	
Arg Cys Asp Thr Lys Gln Gln Gly Met Thr Lys Val Trp Val Ser Pro			
290	295	300	
Ser Asn Glu Gln Val Leu Ser Gln Gly Ser Asn Gly Ser Val Ser Val			
305	310	315	320
Arg Asn Gly Asp Leu Phe Phe Lys Lys Val Gln Val Glu Asp Gly Gly			
325	330	335	
Val Tyr Thr Cys Tyr Ala Met Gly Glu Thr Phe Asn Glu Thr Leu Ser			
340	345	350	
Val Glu Leu Lys Val Tyr Asn Phe Thr Leu His Gly His His Asp Thr			
355	360	365	
Leu Asn Gly Ser Glu Val Leu Phe Gln Gly Pro Lys Ser Cys Asp Lys			
370	375	380	
Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro			
385	390	395	400
Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser			
405	410	415	
Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp			
420	425	430	
Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn			
435	440	445	
Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val			
450	455	460	
Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu			
465	470	475	480
Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys			
485	490	495	
Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr			
500	505	510	
Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr			

515	520	525
Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu		
530	535	540
Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu		
545	550	555
Asp Ser Asp Gly Ser Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys		
565	570	575
Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu		
580	585	590
Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly		
595	600	605
Lys		

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<210> 9
<211> 1920
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ig-fusion
      protein

<220>
<221> CDS
<222> (1)..(1920)

<400> 9
atg tcg tta agg ttc cac aca ctg ccc acc ctg cct aga gct gtc aaa      48
Met Ser Leu Arg Phe His Thr Leu Pro Thr Leu Pro Arg Ala Val Lys
    1           5           10          15

ccg ggt tgc aga gag ctg ctg tgt ctg ttg gtg atc gca gtg atg gtg      96
Pro Gly Cys Arg Glu Leu Leu Cys Leu Leu Val Ile Ala Val Met Val
    20          25          30

agc ccc agc gcc tca gga atg tgc ccc act gct tgc atc tgt gcc acc      144
Ser Pro Ser Ala Ser Gly Met Cys Pro Thr Ala Cys Ile Cys Ala Thr
    35          40          45

gac att gtc agc tgc acc aac aaa aac cta tct aag gtg ccc ggg aac      192
Asp Ile Val Ser Cys Thr Asn Lys Asn Leu Ser Lys Val Pro Gly Asn
    50          55          60

ctt ttc aga ctg att aaa aga ctg gat ctg agc tat aac aga atc gga      240
Leu Phe Arg Leu Ile Lys Arg Leu Asp Leu Ser Tyr Asn Arg Ile Gly
    65          70          75          80

ctg ttg gat gcc gac tgg atc ccg gtg tcg ttt gtc aag ctg agc acc      288

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Leu	Leu	Asp	Ala	Asp	Trp	Ile	Pro	Val	Ser	Phe	Val	Lys	Leu	Ser	Thr	
																85
																90
																95
tta	att	ctt	cgc	cac	aac	aac	atc	acc	agc	atc	tcc	acg	ggc	agt	ttc	336
Leu	Ile	Leu	Arg	His	Asn	Asn	Ile	Thr	Ser	Ile	Ser	Thr	Gly	Ser	Phe	
																100
																105
																110
tcc	aca	acc	cca	aat	tta	aag	tgt	ctg	gac	tta	tca	tcc	aat	agg	ctg	384
Ser	Thr	Thr	Pro	Asn	Leu	Lys	Cys	Leu	Asp	Leu	Ser	Ser	Asn	Arg	Leu	
																115
																120
																125
aag	tcg	gta	aag	agt	gcc	aca	ttc	caa	gag	ctg	aag	gct	ctg	gaa	gta	432
Lys	Ser	Val	Lys	Ser	Ala	Thr	Phe	Gln	Glu	Leu	Lys	Ala	Leu	Glu	Val	
																130
																135
																140
ctg	ctg	ctg	tac	aac	aac	cac	att	tcc	tat	ctg	gac	ccc	gca	gcg	ttc	480
Leu	Leu	Leu	Tyr	Asn	Asn	His	Ile	Ser	Tyr	Leu	Asp	Pro	Ala	Ala	Phe	
																145
																150
																155
																160
ggg	ggg	ctt	tcc	cac	ttg	cag	aaa	ctc	tat	ctg	agt	ggg	aac	ttt	ctc	528
Gly	Gly	Leu	Ser	His	Leu	Gln	Lys	Leu	Tyr	Leu	Ser	Gly	Asn	Phe	Leu	
																165
																170
																175
aca	cag	ttc	cct	atg	gat	ttg	tat	act	ggg	agg	ttc	aag	ctg	gct	gat	576
Thr	Gln	Phe	Pro	Met	Asp	Ieu	Tyr	Thr	Gly	Arg	Phe	Lys	Leu	Ala	Asp	
																180
																185
																190
ctg	aca	ttt	tta	gat	gtt	tcc	tat	aat	cga	atc	cct	tcc	ata	ccg	atg	624
Leu	Thr	Phe	Leu	Asp	Val	Ser	Tyr	Asn	Arg	Ile	Pro	Ser	Ile	Pro	Met	
																195
																200
																205
cac	cat	ata	aac	tta	gtg	ccg	ggg	aga	cag	ctg	aga	ggc	atc	tac	ctt	672
His	His	Ile	Asn	Leu	Val	Pro	Gly	Arg	Gln	Leu	Arg	Gly	Ile	Tyr	Leu	
																210
																215
																220
cac	ggg	aac	cca	ttt	gta	tgt	gac	tgt	tct	ctg	tac	tcg	ttg	ctg	atc	720
His	Gly	Asn	Pro	Phe	Val	Cys	Asp	Cys	Ser	Leu	Tyr	Ser	Leu	Leu	Ile	
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																230
																235
																240
ttt	tgg	tac	cgt	agg	cac	ttt	agc	tcc	gtg	atg	gat	ttt	aag	aat	gac	768
Phe	Trp	Tyr	Arg	Arg	His	Phe	Ser	Ser	Val	Met	Asp	Phe	Lys	Asn	Asp	
																245
																250
																255
tat	acc	tgt	cgc	ctg	tgg	tct	gac	tcc	agg	cac	tcc	cac	cag	ctg	cag	816
Tyr	Thr	Cys	Arg	Leu	Trp	Ser	Asp	Ser	Arg	His	Ser	His	Gln	Leu	Gln	
																260
																265
																270
ctg	ctc	cag	gag	agc	ttt	ctg	aac	tgt	tct	tac	agc	gtt	atc	aac	ggc	864
Leu	Leu	Gln	Glu	Ser	Phe	Leu	Asn	Cys	Ser	Tyr	Ser	Val	Ile	Asn	Gly	
																275
																280
																285
tcc	ttc	cac	gca	ctt	ggc	ttt	atc	cac	gag	gct	cag	gtt	ggg	gag	agg	912
Ser	Phe	His	Ala	Leu	Gly	Phe	Ile	His	Glu	Ala	Gln	Val	Gly	Glu	Arg	
																290
																295
																300
gcg	atc	gtc	cac	tgt	gac	agc	aag	act	ggc	aat	gga	aat	act	act	ttc	960
Ala	Ile	Val	His	Cys	Asp	Ser	Lys	Thr	Gly	Asn	Gly	Asn	Thr	Asp	Phe	

305	310	315	320	
atc tgg gtc ggt ccc gat aac agg ctg ctg gag cca gat aaa gac atg Ile Trp Val Gly Pro Asp Asn Arg Leu Leu Glu Pro Asp Lys Asp Met 325		330		335
1008				
ggg aac ttt cgt gtg ttt tac aac gga agt ctg gtc ata gag aac cct Gly Asn Phe Arg Val Phe Tyr Asn Gly Ser Leu Val Ile Glu Asn Pro 340		345		350
1056				
ggc ttt gag gac gcc ggg gta tat tct tgt atc gca atg aac agg cag Gly Phe Asp Ala Gly Val Tyr Ser Cys Ile Ala Met Asn Arg Gln 355		360		365
1104				
cgg ctg tta aac gag acg gtg gat atc atg atc aac gtg agc aat ttc Arg Leu Leu Asn Glu Thr Val Asp Ile Met Ile Asn Val Ser Asn Phe 370		375		380
1152				
acc ata aac aga tcc cac gag gcg gtc gat ccc atc Thr Ile Asn Arg Ser His Ala His Glu Ala Ala Ala Asp Pro Ile 385		390		395
1200				
395		400		
gaa ggt cgt ggt ggt ggt ggt gat ccc aaa tct tgt gac aaa cct Glu Gly Arg Gly Gly Gly Asp Pro Lys Ser Cys Asp Lys Pro 405		410		415
1248				
415		420		
cac aca tgc cca ccg tgc cca gca cct gaa ctc ctg ggg gga ccg tca His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser 420		425		430
1296				
430		435		
gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc atg atc tcc cgg Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg 435		440		445
1344				
445		450		
acc cct gag gtc aca tgc gtg gtg gac gtg agc cac gaa gac cct Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro 450		455		460
1392				
460		465		
gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag gtg cat aat gcc Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala 465		470		475
1440				
475		480		
aag aca aag ccg cgg gag gag cag tac aac agc acg tac cgg gtg gtc Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val 485		490		495
1488				
495		500		
agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat ggc aag gag tac Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr 500		505		510
1536				
510		515		
aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc atc gag aaa acc Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr 515		520		525
1584				
525		530		
atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag gtg tac acc ctg Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu 530		535		540
1632				
540		545		

ccc cca tcc cgg gat gag ctg acc aag aac cag gtc agc ctg acc tgc		1680	
Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys			
545	550	555	560
ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg gag tgg gag agc		1728	
Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser			
565	570	575	
aat ggg cag ccg gag aac aac tac aag acc acg cct ccc gtg ctg gac		1776	
Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp			
580	585	590	
tcc gac ggc tcc ttc ctc tac agc aag ctc acc gtg gac aag agc		1824	
Ser Asp Gly Ser Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser			
595	600	605	
agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg atg cat gag gct		1872	
Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala			
610	615	620	
ctg cac aac cac tac acg cag aag agc ctc tcc ctg tct ccg ggt aaa		1920	
Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys			
625	630	635	640

<210> 10
<211> 640
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ig-fusion protein

<400> 10			
Met Ser Leu Arg Phe His Thr Leu Pro Thr Leu Pro Arg Ala Val Lys			
1	5	10	15
Pro Gly Cys Arg Glu Leu Leu Cys Leu Leu Val Ile Ala Val Met Val			
20	25	30	
Ser Pro Ser Ala Ser Gly Met Cys Pro Thr Ala Cys Ile Cys Ala Thr			
35	40	45	
Asp Ile Val Ser Cys Thr Asn Lys Asn Leu Ser Lys Val Pro Gly Asn			
50	55	60	
Leu Phe Arg Leu Ile Lys Arg Leu Asp Leu Ser Tyr Asn Arg Ile Gly			
65	70	75	80
Leu Leu Asp Ala Asp Trp Ile Pro Val Ser Phe Val Lys Leu Ser Thr			
85	90	95	
Leu Ile Leu Arg His Asn Asn Ile Thr Ser Ile Ser Thr Gly Ser Phe			
100	105	110	

Ser Thr Thr Pro Asn Leu Lys Cys Leu Asp Leu Ser Ser Asn Arg Leu
 115 120 125
 Lys Ser Val Lys Ser Ala Thr Phe Gln Glu Leu Lys Ala Leu Glu Val
 130 135 140
 Leu Leu Leu Tyr Asn Asn His Ile Ser Tyr Leu Asp Pro Ala Ala Phe
 145 150 155 160
 Gly Gly Leu Ser His Leu Gln Lys Leu Tyr Leu Ser Gly Asn Phe Leu
 165 170 175
 Thr Gln Phe Pro Met Asp Leu Tyr Thr Gly Arg Phe Lys Leu Ala Asp
 180 185 190
 Leu Thr Phe Leu Asp Val Ser Tyr Asn Arg Ile Pro Ser Ile Pro Met
 195 200 205
 His His Ile Asn Leu Val Pro Gly Arg Gln Leu Arg Gly Ile Tyr Leu
 210 215 220
 His Gly Asn Pro Phe Val Cys Asp Cys Ser Leu Tyr Ser Leu Leu Ile
 225 230 235 240
 Phe Trp Tyr Arg Arg His Phe Ser Ser Val Met Asp Phe Lys Asn Asp
 245 250 255
 Tyr Thr Cys Arg Leu Trp Ser Asp Ser Arg His Ser His Gln Leu Gln
 260 265 270
 Leu Leu Gln Glu Ser Phe Leu Asn Cys Ser Tyr Ser Val Ile Asn Gly
 275 280 285
 Ser Phe His Ala Leu Gly Phe Ile His Glu Ala Gln Val Gly Glu Arg
 290 295 300
 Ala Ile Val His Cys Asp Ser Lys Thr Gly Asn Gly Asn Thr Asp Phe
 305 310 315 320
 Ile Trp Val Gly Pro Asp Asn Arg Leu Leu Glu Pro Asp Lys Asp Met
 325 330 335
 Gly Asn Phe Arg Val Phe Tyr Asn Gly Ser Leu Val Ile Glu Asn Pro
 340 345 350
 Gly Phe Glu Asp Ala Gly Val Tyr Ser Cys Ile Ala Met Asn Arg Gln
 355 360 365
 Arg Leu Leu Asn Glu Thr Val Asp Ile Met Ile Asn Val Ser Asn Phe
 370 375 380
 Thr Ile Asn Arg Ser His Ala His Glu Ala Ala Ala Asp Pro Ile
 385 390 395 400
 Glu Gly Arg Gly Gly Gly Asp Pro Lys Ser Cys Asp Lys Pro
 405 410 415

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 420 425 430
 Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 435 440 445
 Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 450 455 460
 Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 465 470 475 480
 Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 485 490 495
 Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 500 505 510
 Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 515 520 525
 Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 530 535 540
 Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
 545 550 555 560
 Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
 565 570 575
 Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
 580 585 590
 Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
 595 600 605
 Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
 610 615 620
 Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 625 630 635 640

<210> 11
 <211> 1887
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Ig-fusion
 protein

<220>
 <221> CDS
 <222> (1)...(1887)

<400> 11
atg gcc tgg cta gtg cta tca ggt ata cta cta tgc atg ttg ggt gct 48
Met Ala Trp Leu Val Leu Ser Gly Ile Leu Leu Cys Met Leu Gly Ala
1 5 10 15

gga ttg ggc act tca gac ttg gag gat gtt ctg cct cct gct ccc cac 96
Gly Leu Gly Thr Ser Asp Leu Glu Asp Val Leu Pro Pro Ala Pro His
20 25 30

aac tgc ccc gat ata tgc atc tgt gct gcc gat gtg ttg agc tgt gcg 144
Asn Cys Pro Asp Ile Cys Ile Cys Ala Ala Asp Val Leu Ser Cys Ala
35 40 45

ggc cgt ggg tta cag gac ttg ccg gta gca ctg cct acc act gct gca 192
Gly Arg Gly Leu Gln Asp Leu Pro Val Ala Leu Pro Thr Ala Ala
50 55 60

gaa ctc gat ttg agc cac aac gca ctc aaa cgc ctg cac ccg ggg tgg 240
Glu Leu Asp Leu Ser His Asn Ala Leu Lys Arg Leu His Pro Gly Trp
65 70 75 80

tta gcg ccc ctc tcc cgg ctg cgt gcc ttg cac cta ggc tat aat aag 288
Leu Ala Pro Leu Ser Arg Leu Arg Ala Leu His Leu Gly Tyr Asn Lys
85 90 95

ctg gaa gtc ctg ggc cat ggt gcg ttc acc aat gcc agt ggc ctg agg 336
Leu Glu Val Leu Gly His Gly Ala Phe Thr Asn Ala Ser Gly Leu Arg
100 105 110

aca ctt gac ctg tcc tct aat atg tta agg atg ctc cat acc cat gac 384
Thr Leu Asp Leu Ser Ser Asn Met Leu Arg Met Leu His Thr His Asp
115 120 125

ctg gat ggc ctg gag gag ctg gag aag tta ctt ctg ttc aat aac agc 432
Leu Asp Gly Leu Glu Leu Glu Lys Leu Leu Phe Asn Asn Ser
130 135 140

ctg atg cac ttg gac ctg gat gcc ttc cag ggc ctg cgc atg ctt agc 480
Leu Met His Leu Asp Leu Asp Ala Phe Gln Gly Leu Arg Met Leu Ser
145 150 155 160

cac ctc tat ctc agc tgc aac gag ctc tcc tct ttc tct aac cac 528
His Leu Tyr Leu Ser Cys Asn Glu Leu Ser Ser Phe Ser Phe Asn His
165 170 175

ttg cac ggt ctg ggg tta acc cgc ctg cgg act ctg gac ctc tcc tcc 576
Leu His Gly Leu Gly Leu Thr Arg Leu Arg Thr Leu Asp Leu Ser Ser
180 185 190

aac tgg ctg aaa cat atc tcc atc cct gag ttg gct gca ctg cca act 624
Asn Trp Leu Lys His Ile Ser Ile Pro Glu Leu Ala Ala Leu Pro Thr
195 200 205

tat ctc aag aac agg ctc tac ctg cac aac aac ccg ctg ccc tgt gac 672
Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp
210 215 220

tgc agc ctc tac cac ctg ctc cg ^g cgc tgg cac cag cg ^g ggc ctg agt Cys Ser Leu Tyr His Leu Leu Arg Arg Trp His Gln Arg Gly Leu Ser 225 230 235 240	720
gcc ctg cat gat ttt gaa cg ^c gag tac aca tgc ttg gtc ttt aag gtg Ala Leu His Asp Phe Glu Arg Glu Tyr Thr Cys Leu Val Phe Lys Val 245 250 255	768
tca gag tcc cga gtg cg ^c ttt ttt gag cac agc cg ^g gtc ttc aag aac Ser Glu Ser Arg Val Arg Phe Glu His Ser Arg Val Phe Lys Asn 260 265 270	816
tgc tct gtg gct gca gct cca gg ^c tta gag ctg cct gaa gag cag ctg Cys Ser Val Ala Ala Ala Pro Gly Leu Glu Leu Pro Glu Glu Gln Leu 275 280 285	864
cac gcg cag gtg gg ^c cag tcc ctg agg ctc ttc tgc aac acc agt gtg His Ala Gln Val Gly Gln Ser Leu Arg Leu Phe Cys Asn Thr Ser Val 290 295 300	912
cct gcc act cg ^g gtg gg ^c tgg gtc tcc cc ^g aag aat gag ctg ctt gtg Pro Ala Thr Arg Val Ala Trp Val Ser Pro Lys Asn Glu Leu Leu Val 305 310 315 320	960
gc ^g cca gcc tct cag gat ggt agc atc gct gtg ttg gct gat gg ^c agc Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser 325 330 335	1008
tta gcc ata gg ^c agg gtg caa gag cag cac gca gg ^c gtc ttt gtg tgc Leu Ala Ile Gly Arg Val Gln Glu Gln His Ala Gly Val Phe Val Cys 340 345 350	1056
ctg gcc agt ggg ccc cg ^c ctg cac cac aac cag aca ctt gag tac aat Leu Ala Ser Gly Pro Arg Leu His His Asn Gln Thr Leu Glu Tyr Asn 355 360 365	1104
gtg agt gtg caa aag gct cg ^c ccc gag cca gag act ttc aac aca gc ^g Val Ser Val Gln Lys Ala Arg Pro Glu Pro Glu Thr Phe Asn Thr Ala 370 375 380	1152
gcc gc ^g gat ccc atc gaa ggt cgt ggt ggt ggt gat ccc aaa Ala Ala Asp Pro Ile Glu Gly Arg Gly Gly Gly Asp Pro Lys 385 390 395 400	1200
tct tgt gac aaa cct cac aca tgc cca cc ^g tgc cca gca cct gaa ctc Ser Cys Asp Lys Pro His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu 405 410 415	1248
ctg ggg gga cc ^g tca gtc tt ^c ctc tt ^c ccc cca aaa ccc aag gac acc Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr 420 425 430	1296
ctc atg atc tcc cg ^g acc cct gag gtc aca tgc gtg gtg gtg gac gtg Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val 435 440 445	1344
agc cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac gg ^c gtg	1392

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val			
450	455	460	
gag gtg cat aat gcc aag aca aag ccg cgg gag gag cag tac aac agc			1440
Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser			
465	470	475	480
acg tac ccg gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg			1488
Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu			
485	490	495	
aat ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc			1536
Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala			
500	505	510	
ccc atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca			1584
Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro			
515	520	525	
cag gtg tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac cag			1632
Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln			
530	535	540	
gtc agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc gcc			1680
Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala			
545	550	555	560
gtg gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc acg			1728
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr			
565	570	575	
cct ccc gtg ctg gac tcc gac ggc tcc ttc ttc ctc tac agc aag ctc			1776
Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu			
580	585	590	
acc gtg gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc			1824
Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser			
595	600	605	
gtg atg cat gag gct ctg cac aac cac tac acg cag aag agc ctc tcc			1872
Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser			
610	615	620	
ctg tct ccg ggt aaa			1887
Leu Ser Pro Gly Lys			
625			

<210> 12
<211> 629
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ig-fusion
protein

<400> 12
 Met Ala Trp Leu Val Leu Ser Gly Ile Leu Leu Cys Met Leu Gly Ala
 1 5 10 15

 Gly Leu Gly Thr Ser Asp Leu Glu Asp Val Leu Pro Pro Ala Pro His
 20 25 30

 Asn Cys Pro Asp Ile Cys Ile Cys Ala Ala Asp Val Leu Ser Cys Ala
 35 40 45

 Gly Arg Gly Leu Gln Asp Leu Pro Val Ala Leu Pro Thr Thr Ala Ala
 50 55 60

 Glu Leu Asp Leu Ser His Asn Ala Leu Lys Arg Leu His Pro Gly Trp
 65 70 75 80

 Leu Ala Pro Leu Ser Arg Leu Arg Ala Leu His Leu Gly Tyr Asn Lys
 85 90 95

 Leu Glu Val Leu Gly His Gly Ala Phe Thr Asn Ala Ser Gly Leu Arg
 100 105 110

 Thr Leu Asp Leu Ser Ser Asn Met Leu Arg Met Leu His Thr His Asp
 115 120 125

 Leu Asp Gly Leu Glu Glu Leu Glu Lys Leu Leu Leu Phe Asn Asn Ser
 130 135 140

 Leu Met His Leu Asp Leu Asp Ala Phe Gln Gly Leu Arg Met Leu Ser
 145 150 155 160

 His Leu Tyr Leu Ser Cys Asn Glu Leu Ser Ser Phe Ser Phe Asn His
 165 170 175

 Leu His Gly Leu Gly Leu Thr Arg Leu Arg Thr Leu Asp Leu Ser Ser
 180 185 190

 Asn Trp Leu Lys His Ile Ser Ile Pro Glu Leu Ala Ala Leu Pro Thr
 195 200 205

 Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp
 210 215 220

 Cys Ser Leu Tyr His Leu Leu Arg Arg Trp His Gln Arg Gly Leu Ser
 225 230 235 240

 Ala Leu His Asp Phe Glu Arg Glu Tyr Thr Cys Leu Val Phe Lys Val
 245 250 255

 Ser Glu Ser Arg Val Arg Phe Phe Glu His Ser Arg Val Phe Lys Asn
 260 265 270

 Cys Ser Val Ala Ala Ala Pro Gly Leu Glu Leu Pro Glu Glu Gln Leu
 275 280 285

 His Ala Gln Val Gly Gln Ser Leu Arg Leu Phe Cys Asn Thr Ser Val
 290 295 300

Pro Ala Thr Arg Val Ala Trp Val Ser Pro Lys Asn Glu Leu Leu Val
 305 310 315 320

 Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser
 325 330 335

 Leu Ala Ile Gly Arg Val Gln Glu Gln His Ala Gly Val Phe Val Cys
 340 345 350

 Leu Ala Ser Gly Pro Arg Leu His His Asn Gln Thr Leu Glu Tyr Asn
 355 360 365

 Val Ser Val Gln Lys Ala Arg Pro Glu Pro Glu Thr Phe Asn Thr Ala
 370 375 380

 Ala Ala Asp Pro Ile Glu Gly Arg Gly Gly Gly Asp Pro Lys
 385 390 395 400

 Ser Cys Asp Lys Pro His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
 405 410 415

 Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 420 425 430

 Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 435 440 445

 Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 450 455 460

 Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 465 470 475 480

 Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 485 490 495

 Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 500 505 510

 Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 515 520 525

 Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln
 530 535 540

 Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 545 550 555 560

 Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 565 570 575

 Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 580 585 590

 Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 595 600 605

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
610 615 620

Leu Ser Pro Gly Lys
625

<210> 13
<211> 1476
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)..(1476)

<400> 13
atg caa ccc cag cgt gac ctg cga ggc ctc tgg ctc ctg ctg ctc tcc 48
Met Gln Pro Gln Arg Asp Leu Arg Gly Leu Trp Leu Leu Leu Ser
1 5 10 15

gtg ttc ctg ctt ctc ttt gag gta gcc agg gcc ggc cga tct gtg gtt 96
Val Phe Leu Leu Phe Glu Val Ala Arg Ala Gly Arg Ser Val Val
20 25 30

agt tgt ccc gcc aac tgc ctg tgc gcc agc aac atc ctc agc tgc tcc 144
Ser Cys Pro Ala Asn Cys Leu Cys Ala Ser Asn Ile Leu Ser Cys Ser
35 40 45

aag cag cag ctg ccc aat gtg ccc caa tct ttg ccc agc tac aca gca 192
Lys Gln Gln Leu Pro Asn Val Pro Gln Ser Leu Pro Ser Tyr Thr Ala
50 55 60

ctg ctg gac ctc agc cac aac ttg agc agg ctg cgg gcc gag tgg 240
Leu Leu Asp Leu Ser His Asn Asn Leu Ser Arg Leu Arg Ala Glu Trp
65 70 75 80

acc ccc acc cgg ctg acc aac ctg cac tcc ctg ctg agc cac aac 288
Thr Pro Thr Arg Leu Thr Asn Leu His Ser Leu Leu Ser His Asn
85 90 95

cac ctg aac ttc atc tcc tcc gag gcc ttc gtc ccc gta ccc aac ctt 336
His Leu Asn Phe Ile Ser Ser Glu Ala Phe Val Pro Val Pro Asn Leu
100 105 110

agg tac ttg gac ctc tcc aac cat ctt cac acg ctg gat gag ttc 384
Arg Tyr Leu Asp Leu Ser Ser Asn His Leu His Thr Leu Asp Glu Phe
115 120 125

ctg ttc agc gac ctg cag gcg ctg gaa gtg ctg ttg ctc tac aat aac 432
Leu Phe Ser Asp Leu Gln Ala Leu Glu Val Leu Leu Leu Tyr Asn Asn
130 135 140

cac att gtg gtg gtg gac cgg aat gcc ttt gag gac atg gcc cag ctg 480
His Ile Val Val Val Asp Arg Asn Ala Phe Glu Asp Met Ala Gln Leu

145	150	155	160	
cag aaa ctc tac tta agc cag aat cag atc tct cgc ttt cct gtg gaa Gln Lys Leu Tyr Leu Ser Gln Asn Gln Ile Ser Arg Phe Pro Val Glu 165		170	175	528
ctg atc aag gat ggg aac aaa tta ccc aaa ctg atg ctc ttg gat ctg Leu Ile Lys Asp Gly Asn Lys Leu Pro Lys Leu Met Leu Leu Asp Leu 180	185		190	576
tcc tcc aac aag ctg aag aag ttg ccc ctg act gac ctg cag aaa ttg Ser Ser Asn Lys Leu Lys Leu Pro Leu Thr Asp Leu Gln Lys Leu 195	200	205		624
cca gcc tgg gtc aag aat ggg cta tac ctg cat aac aac ccc ttg gag Pro Ala Trp Val Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Glu 210	215	220		672
tgc gac tgc aag ctc tac cag ctc ttt tcg cac tgg cag tac cgg cag Cys Asp Cys Lys Leu Tyr Gln Leu Phe Ser His Trp Gln Tyr Arg Gln 225	230	235	240	720
ctg agc tct gtg atg gac ttc cag gag gac ctg tac tgc atg cac tcc Leu Ser Ser Val Met Asp Phe Gln Glu Asp Leu Tyr Cys Met His Ser 245	250		255	768
aag aag ctg cac aac atc ttc agc ctg gat ttc ttc aat tgc agc gag Lys Lys Leu His Asn Ile Phe Ser Leu Asp Phe Phe Asn Cys Ser Glu 260	265	270		816
tac aag gaa agt gcc tgg gag gct cac ctg gga gac acc ttg acc atc Tyr Lys Glu Ser Ala Trp Glu Ala His Leu Gly Asp Thr Leu Thr Ile 275	280	285		864
agg tgt gac acc aaa cag caa ggc atg acc aaa gtg tgg gtg tcc cca Arg Cys Asp Thr Lys Gln Gln Gly Met Thr Lys Val Trp Val Ser Pro 290	295	300		912
agc aat gaa cag gtg cta agt cag ggg tcc aat ggc tcg gtg agc gtg Ser Asn Glu Gln Val Leu Ser Gln Gly Ser Asn Gly Ser Val Ser Val 305	310	315	320	960
agg aat ggc gac ctt ttt aaa aag gtg cag gtc gag gat ggg ggt Arg Asn Gly Asp Leu Phe Phe Lys Lys Val Gln Val Glu Asp Gly Gly 325	330	335		1008
gtg tat acc tgt tac gcc atg ggg gag act ttc aac gag aca ctg tct Val Tyr Thr Cys Tyr Ala Met Gly Glu Thr Phe Asn Glu Thr Leu Ser 340	345	350		1056
gtg gag ttg aaa gtg tat aac ttc acc ttg cac gga cac cat gac acc Val Glu Leu Lys Val Tyr Asn Phe Thr Leu His Gly His His Asp Thr 355	360	365		1104
ctc aac aca gcc tac act acc ctg gtg ggc tgt atc ctc agt gtg gtt Leu Asn Thr Ala Tyr Thr Thr Leu Val Gly Cys Ile Leu Ser Val Val 370	375	380		1152

ctg gtc ctc ata tac ttg tac ctc acc cct tgc cgc tgc tgg tgt cg		1200
Leu Val Leu Ile Tyr Leu Tyr Leu Thr Pro Cys Arg Cys Trp Cys Arg		
385 390 395 400		
ggt gtg gag aaa cct tcc agc cac caa gga gat agc ctc agc tct tct		1248
Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu Ser Ser Ser		
405 410 415		
atg ctc agt acc aca ccc aac cac gac cct atg gct ggt ggg gac aaa		1296
Met Leu Ser Thr Thr Pro Asn His Asp Pro Met Ala Gly Gly Asp Lys		
420 425 430		
gat gat ggt ttt gac cg cg gtg gcc ttc ctg gaa cct gct gga ccc		1344
Asp Asp Gly Phe Asp Arg Arg Val Ala Phe Leu Glu Pro Ala Gly Pro		
435 440 445		
ggg cag ggt caa aat ggc aaa ctc aag cca ggc aac act ctg ccg gtg		1392
Gly Gln Gly Gln Asn Gly Lys Leu Lys Pro Gly Asn Thr Leu Pro Val		
450 455 460		
ccc gaa gct aca ggc aag ggc caa cg agg atg tcc gat cca gag tcg		1440
Pro Glu Ala Thr Gly Lys Gly Gln Arg Arg Met Ser Asp Pro Glu Ser		
465 470 475 480		
gtc agc tcg gtc ttt tct gat aca ccc att gtg gtg		1476
Val Ser Ser Val Phe Ser Asp Thr Pro Ile Val Val		
485 490		

<210> 14
<211> 492
<212> PRT
<213> Mus musculus

<400> 14		
Met Gln Pro Gln Arg Asp Leu Arg Gly Leu Trp Leu Leu Leu Ser		
1 5 10 15		
Val Phe Leu Leu Leu Phe Glu Val Ala Arg Ala Gly Arg Ser Val Val		
20 25 30		
Ser Cys Pro Ala Asn Cys Leu Cys Ala Ser Asn Ile Leu Ser Cys Ser		
35 40 45		
Lys Gln Gln Leu Pro Asn Val Pro Gln Ser Leu Pro Ser Tyr Thr Ala		
50 55 60		
Leu Leu Asp Leu Ser His Asn Asn Leu Ser Arg Leu Arg Ala Glu Trp		
65 70 75 80		
Thr Pro Thr Arg Leu Thr Asn Leu His Ser Leu Leu Leu Ser His Asn		
85 90 95		
His Leu Asn Phe Ile Ser Ser Glu Ala Phe Val Pro Val Pro Asn Leu		
100 105 110		

Arg Tyr Leu Asp Leu Ser Ser Asn His Leu His Thr Leu Asp Glu Phe
 115 120 125
 Leu Phe Ser Asp Leu Gln Ala Leu Glu Val Leu Leu Leu Tyr Asn Asn
 130 135 140
 His Ile Val Val Val Asp Arg Asn Ala Phe Glu Asp Met Ala Gln Leu
 145 150 155 160
 Gln Lys Leu Tyr Leu Ser Gln Asn Gln Ile Ser Arg Phe Pro Val Glu
 165 170 175
 Leu Ile Lys Asp Gly Asn Lys Leu Pro Lys Leu Met Leu Leu Asp Leu
 180 185 190
 Ser Ser Asn Lys Leu Lys Lys Leu Pro Leu Thr Asp Leu Gln Lys Leu
 195 200 205
 Pro Ala Trp Val Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Glu
 210 215 220
 Cys Asp Cys Lys Leu Tyr Gln Leu Phe Ser His Trp Gln Tyr Arg Gln
 225 230 235 240
 Leu Ser Ser Val Met Asp Phe Gln Glu Asp Leu Tyr Cys Met His Ser
 245 250 255
 Lys Lys Leu His Asn Ile Phe Ser Leu Asp Phe Phe Asn Cys Ser Glu
 260 265 270
 Tyr Lys Glu Ser Ala Trp Glu Ala His Leu Gly Asp Thr Leu Thr Ile
 275 280 285
 Arg Cys Asp Thr Lys Gln Gln Gly Met Thr Lys Val Trp Val Ser Pro
 290 295 300
 Ser Asn Glu Gln Val Leu Ser Gln Gly Ser Asn Gly Ser Val Ser Val
 305 310 315 320
 Arg Asn Gly Asp Leu Phe Phe Lys Lys Val Gln Val Glu Asp Gly Gly
 325 330 335
 Val Tyr Thr Cys Tyr Ala Met Gly Glu Thr Phe Asn Glu Thr Leu Ser
 340 345 350
 Val Glu Leu Lys Val Tyr Asn Phe Thr Leu His Gly His His Asp Thr
 355 360 365
 Leu Asn Thr Ala Tyr Thr Thr Leu Val Gly Cys Ile Leu Ser Val Val
 370 375 380
 Leu Val Leu Ile Tyr Leu Tyr Leu Thr Pro Cys Arg Cys Trp Cys Arg
 385 390 395 400
 Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu Ser Ser Ser
 405 410 415

Met	Leu	Ser	Thr	Thr	Pro	Asn	His	Asp	Pro	Met	Ala	Gly	Gly	Asp	Lys
420					425									430	
Asp	Asp	Gly	Phe	Asp	Arg	Arg	Val	Ala	Phe	Leu	Glu	Pro	Ala	Gly	Pro
435				440							445				
Gly	Gln	Gly	Gln	Asn	Gly	Lys	Leu	Lys	Pro	Gly	Asn	Thr	Leu	Pro	Val
450					455						460				
Pro	Glu	Ala	Thr	Gly	Lys	Gly	Gln	Arg	Arg	Met	Ser	Asp	Pro	Glu	Ser
465					470			475						480	
Val	Ser	Ser	Val	Phe	Ser	Asp	Thr	Pro	Ile	Val	Val				
					485			490							

<210> 15
<211> 1557
<212> DNA
<213> Mus musculus

<220>
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<222> (1)..(1557)

<400> 15																
atg	tgc	tta	agg	ttc	cac	aca	ctg	ccc	acc	ctg	cct	aga	gct	gtc	aaa	48
Met	Ser	Leu	Arg	Phe	His	Thr	Leu	Pro	Thr	Leu	Pro	Arg	Ala	Val	Lys	
1		5					10							15		
ccg	ggt	tgc	aga	gag	ctg	ctg	tgt	ctg	ttg	gtg	atc	gca	gtg	atg	gtg	96
Pro	Gly	Cys	Arg	Glu	Leu	Leu	Cys	Leu	Leu	Val	Ile	Ala	Val	Met	Val	
					20			25					30			
agc	ccc	agc	gcc	tca	gga	atg	tgc	ccc	act	gct	tgc	atc	tgt	gcc	acc	144
Ser	Pro	Ser	Ala	Ser	Gly	Met	Cys	Pro	Thr	Ala	Cys	Ile	Cys	Ala	Thr	
						35		40			45					
gac	att	gtc	agc	tgc	acc	aac	aaa	aac	cta	tct	aag	gtg	ccc	ggg	aac	192
Asp	Ile	Val	Ser	Cys	Thr	Asn	Lys	Asn	Leu	Ser	Lys	Val	Pro	Gly	Asn	
						50		55			60					
ctt	ttc	aga	ctg	att	aaa	aga	ctg	gat	ctg	agc	tat	aac	aga	atc	gga	240
Leu	Phe	Arg	Leu	Ile	Lys	Arg	Leu	Asp	Leu	Ser	Tyr	Asn	Arg	Ile	Gly	
						65		70			75		80			
ctg	ttg	gat	gcc	gac	tgg	atc	ccg	gtg	tcg	ttt	gtc	aag	ctg	agc	acc	288
Leu	Leu	Asp	Ala	Asp	Trp	Ile	Pro	Val	Ser	Phe	Val	Lys	Leu	Ser	Thr	
						85		90			95					
tta	att	ctt	cgc	cac	aac	aatc	acc	agc	atc	tcc	acg	ggc	agt	ttc	336	
Leu	Ile	Leu	Arg	His	Asn	Asn	Ile	Thr	Ser	Ile	Ser	Thr	Gly	Ser	Phe	
						100		105			110					
tcc	aca	acc	cca	aat	tta	aag	tgt	ctg	gac	tta	tca	tcc	aat	agg	ctg	384
Ser	Thr	Thr	Pro	Asn	Leu	Lys	Cys	Leu	Asp	Leu	Ser	Ser	Asn	Arg	Leu	

115	120	125	
aag tcg gta aag agt gcc aca ttc caa gag ctg aag gct ctg gaa gta Lys Ser Val Lys Ser Ala Thr Phe Gln Glu Leu Lys Ala Leu Glu Val 130	135	140	432
ctg ctg ctg tac aac aac cac att tcc tat ctg gac ccc gca gcg ttc Leu Leu Leu Tyr Asn Asn His Ile Ser Tyr Leu Asp Pro Ala Ala Phe 145	150	155	480
ggg ggg ctt tcc cac ttg cag aaa ctc tat ctg agt ggg aac ttt ctc Gly Gly Leu Ser His Leu Gln Lys Leu Tyr Leu Ser Gly Asn Phe Leu 165	170	175	528
aca cag ttc cct atg gat ttg tat act ggg agg ttc aag ctg gct gat Thr Gln Phe Pro Met Asp Leu Tyr Thr Gly Arg Phe Lys Leu Ala Asp 180	185	190	576
ctg aca ttt tta gat gtt tcc tat aat cga atc cct tcc ata ccg atg Leu Thr Phe Leu Asp Val Ser Tyr Asn Arg Ile Pro Ser Ile Pro Met 195	200	205	624
cac cat ata aac tta gtg ccg ggg aga cag ctg aga ggc atc tac ctt His His Ile Asn Leu Val Pro Gly Arg Gln Leu Arg Gly Ile Tyr Leu 210	215	220	672
cac ggg aac cca ttt gta tgt gac tgt tct ctg tac tcg ttg ctg atc His Gly Asn Pro Phe Val Cys Asp Cys Ser Leu Tyr Ser Leu Leu Ile 225	230	235	720
ttt tgg tac cgt agg cac ttt agc tcc gtg atg gat ttt aag aat gac Phe Trp Tyr Arg Arg His Phe Ser Ser Val Met Asp Phe Lys Asn Asp 245	250	255	768
tat acc tgt cgc ctg tgg tct gac tcc agg cac tcc cac cag ctg cag Tyr Thr Cys Arg Leu Trp Ser Asp Ser Arg His Ser His Gln Leu Gln 260	265	270	816
ctg ctc cag gag agc ttt ctg aac tgt tct tac agc gtt atc aac ggc Leu Leu Gln Glu Ser Phe Leu Asn Cys Ser Tyr Ser Val Ile Asn Gly 275	280	285	864
tcc ttc cac gca ctt ggc ttt atc cac gag gct cag gtt ggg gag agg Ser Phe His Ala Leu Gly Phe Ile His Glu Ala Gln Val Gly Glu Arg 290	295	300	912
gcg atc gtc cac tgt gac agc aag act ggc aat gga aat act gat ttc Ala Ile Val His Cys Asp Ser Lys Thr Gly Asn Gly Asn Thr Asp Phe 305	310	315	960
atc tgg gtc ggt ccc gat aac agg ctg ctg gag cca gat aaa gac atg Ile Trp Val Gly Pro Asp Asn Arg Leu Leu Glu Pro Asp Lys Asp Met 325	330	335	1008
ggg aac ttt cgt gtg ttt tac aac gga agt ctg gtc ata gag aac cct Gly Asn Phe Arg Val Phe Tyr Asn Gly Ser Leu Val Ile Glu Asn Pro 340	345	350	1056

ggc ttt gag gac gcc ggg gta tat tct tgt atc gca atg aac agg cag		1104	
Gly Phe Glu Asp Ala Gly Val Tyr Ser Cys Ile Ala Met Asn Arg Gln			
355	360	365	
cggtt aac gag acg gtg gat atc atg atc aac gtg agc aat ttc		1152	
Arg Leu Leu Asn Glu Thr Val Asp Ile Met Ile Asn Val Ser Asn Phe			
370	375	380	
acc ata aac aga tcc cac gcc gag gcg ttt aac acg gcc ttt acc		1200	
Thr Ile Asn Arg Ser His Ala His Glu Ala Phe Asn Thr Ala Phe Thr			
385	390	395	400
acc ctg gct gcc tgc gtg gcc agt ata gtt cta gtg cta ctg tat ctg		1248	
Thr Leu Ala Ala Cys Val Ala Ser Ile Val Leu Val Leu Leu Tyr Leu			
405	410	415	
tac ctg acg ccg tgc cca tgc aaa tgc aaa gcc aag aga cag aaa aac		1296	
Tyr Leu Thr Pro Cys Pro Cys Lys Cys Lys Ala Lys Arg Gln Lys Asn			
420	425	430	
acg ctg agc caa agc agt gcc cac tcg tcc att ctc agt cct ggc ccc		1344	
Thr Leu Ser Gln Ser Ser Ala His Ser Ser Ile Leu Ser Pro Gly Pro			
435	440	445	
act ggc gat gcc tct gct gac gat cggtt aag gca ggt aaa aga gtc gtg		1392	
Thr Gly Asp Ala Ser Ala Asp Asp Arg Lys Ala Gly Lys Arg Val Val			
450	455	460	
ttt ctg gag ccc ctg aag gac acg gcg gcc gga cag aat ggc aaa gtc		1440	
Phe Leu Glu Pro Leu Lys Asp Thr Ala Ala Gly Gln Asn Gly Lys Val			
465	470	475	480
aag ctt ttc ccc agt gag acc gtt ata gcc gag ggc atc tta aag tcc		1488	
Lys Leu Phe Pro Ser Glu Thr Val Ile Ala Glu Gly Ile Leu Lys Ser			
485	490	495	
acc agg gca aag tct gac tca gac tca gtc aat tcc gtg ttc tca gac		1536	
Thr Arg Ala Lys Ser Asp Ser Asp Ser Val Asn Ser Val Phe Ser Asp			
500	505	510	
aca ccc ttt gtg gca tcc act		1557	
Thr Pro Phe Val Ala Ser Thr			
515			

<210> 16
<211> 519
<212> PRT
<213> Mus musculus

<400> 16
Met Ser Leu Arg Phe His Thr Leu Pro Thr Leu Pro Arg Ala Val Lys
1 5 10 15

Pro Gly Cys Arg Glu Leu Leu Cys Leu Leu Val Ile Ala Val Met Val
20 25 30

Ser Pro Ser Ala Ser Gly Met Cys Pro Thr Ala Cys Ile Cys Ala Thr
 35 40 45

 Asp Ile Val Ser Cys Thr Asn Lys Asn Leu Ser Lys Val Pro Gly Asn
 50 55 60

 Leu Phe Arg Leu Ile Lys Arg Leu Asp Leu Ser Tyr Asn Arg Ile Gly
 65 70 75 80

 Leu Leu Asp Ala Asp Trp Ile Pro Val Ser Phe Val Lys Leu Ser Thr
 85 90 95

 Leu Ile Leu Arg His Asn Asn Ile Thr Ser Ile Ser Thr Gly Ser Phe
 100 105 110

 Ser Thr Thr Pro Asn Leu Lys Cys Leu Asp Leu Ser Ser Asn Arg Leu
 115 120 125

 Lys Ser Val Lys Ser Ala Thr Phe Gln Glu Leu Lys Ala Leu Glu Val
 130 135 140

 Leu Leu Leu Tyr Asn Asn His Ile Ser Tyr Leu Asp Pro Ala Ala Phe
 145 150 155 160

 Gly Gly Leu Ser His Leu Gln Lys Leu Tyr Leu Ser Gly Asn Phe Leu
 165 170 175

 Thr Gln Phe Pro Met Asp Leu Tyr Thr Gly Arg Phe Lys Leu Ala Asp
 180 185 190

 Leu Thr Phe Leu Asp Val Ser Tyr Asn Arg Ile Pro Ser Ile Pro Met
 195 200 205

 His His Ile Asn Leu Val Pro Gly Arg Gln Leu Arg Gly Ile Tyr Leu
 210 215 220

 His Gly Asn Pro Phe Val Cys Asp Cys Ser Leu Tyr Ser Leu Leu Ile
 225 230 235 240

 Phe Trp Tyr Arg Arg His Phe Ser Ser Val Met Asp Phe Lys Asn Asp
 245 250 255

 Tyr Thr Cys Arg Leu Trp Ser Asp Ser Arg His Ser His Gln Leu Gln
 260 265 270

 Leu Leu Gln Glu Ser Phe Leu Asn Cys Ser Tyr Ser Val Ile Asn Gly
 275 280 285

 Ser Phe His Ala Leu Gly Phe Ile His Glu Ala Gln Val Gly Glu Arg
 290 295 300

 Ala Ile Val His Cys Asp Ser Lys Thr Gly Asn Gly Asn Thr Asp Phe
 305 310 315 320

 Ile Trp Val Gly Pro Asp Asn Arg Leu Leu Glu Pro Asp Lys Asp Met
 325 330 335

Gly Asn Phe Arg Val Phe Tyr Asn Gly Ser Leu Val Ile Glu Asn Pro
 340 345 350
 Gly Phe Glu Asp Ala Gly Val Tyr Ser Cys Ile Ala Met Asn Arg Gln
 355 360 365
 Arg Leu Leu Asn Glu Thr Val Asp Ile Met Ile Asn Val Ser Asn Phe
 370 375 380
 Thr Ile Asn Arg Ser His Ala His Glu Ala Phe Asn Thr Ala Phe Thr
 385 390 395 400
 Thr Leu Ala Ala Cys Val Ala Ser Ile Val Leu Val Leu Leu Tyr Leu
 405 410 415
 Tyr Leu Thr Pro Cys Pro Cys Lys Cys Lys Ala Lys Arg Gln Lys Asn
 420 425 430
 Thr Leu Ser Gln Ser Ser Ala His Ser Ser Ile Leu Ser Pro Gly Pro
 435 440 445
 Thr Gly Asp Ala Ser Ala Asp Asp Arg Lys Ala Gly Lys Arg Val Val
 450 455 460
 Phe Leu Glu Pro Leu Lys Asp Thr Ala Ala Gly Gln Asn Gly Lys Val
 465 470 475 480
 Lys Leu Phe Pro Ser Glu Thr Val Ile Ala Glu Gly Ile Leu Lys Ser
 485 490 495
 Thr Arg Ala Lys Ser Asp Ser Asp Ser Val Asn Ser Val Phe Ser Asp
 500 505 510
 Thr Pro Phe Val Ala Ser Thr
 515

<210> 17
 <211> 1524
 <212> DNA
 <213> Mus musculus

<220>
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 <222> (1)..(1524)

<400> 17
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 Met Ala Trp Leu Val Leu Ser Gly Ile Leu Leu Cys Met Leu Gly Ala
 1 5 10 15
 gga ttg ggc act tca gac ttg gag gat gtt ctg cct cct gct ccc cac 96
 Gly Leu Gly Thr Ser Asp Leu Glu Asp Val Leu Pro Pro Ala Pro His
 20 25 30

aac tgc ccc gat ata tgc atc tgt gct gcc gat gtg ttg agc tgt gcg		144	
Asn Cys Pro Asp Ile Cys Ile Cys Ala Ala Asp Val Leu Ser Cys Ala			
35	40	45	
ggc cgt ggg tta cag gac ttg ccg gta gca ctg cct acc act gct gca		192	
Gly Arg Gly Leu Gln Asp Leu Pro Val Ala Leu Pro Thr Thr Ala Ala			
50	55	60	
gaa ctc gat ttg agc cac aac gca ctc aaa cgc ctg cac ccg ggg tgg		240	
Glu Leu Asp Leu Ser His Asn Ala Leu Lys Arg Leu His Pro Gly Trp			
65	70	75	80
tta gcg ccc ctc tcc cgg ctg cgt gcc ttg cac cta ggc tat aat aag		288	
Leu Ala Pro Leu Ser Arg Leu Arg Ala Leu His Leu Gly Tyr Asn Lys			
85	90	95	
ctg gaa gtc ctg ggc cat ggt gcg ttc acc aat gcc agt ggc ctg agg		336	
Leu Glu Val Leu Gly His Gly Ala Phe Thr Asn Ala Ser Gly Leu Arg			
100	105	110	
aca ctt gac ctg tcc tct aat atg tta agg atg ctc cat acc cat gac		384	
Thr Leu Asp Leu Ser Ser Asn Met Leu Arg Met Leu His Thr His Asp			
115	120	125	
ctg gat ggc ctg gag gag ctg gag aag tta ctt ctg ttc aat aac agc		432	
Leu Asp Gly Leu Glu Leu Glu Lys Leu Leu Leu Phe Asn Asn Ser			
130	135	140	
ctg atg cac ttg gac ctg gat gcc ttc cag ggc ctg cgc atg ctt agc		480	
Leu Met His Leu Asp Leu Asp Ala Phe Gln Gly Leu Arg Met Leu Ser			
145	150	155	160
cac ctc tat ctc agc tgc aac gag ctc tcc tct ttc tct ttc aac cac		528	
His Leu Tyr Leu Ser Cys Asn Glu Leu Ser Ser Phe Ser Phe Asn His			
165	170	175	
ttg cac ggt ctg ggg tta acc cgc ctg cgg act ctg gac ctc tcc tcc		576	
Leu His Gly Leu Gly Leu Thr Arg Leu Arg Thr Leu Asp Leu Ser Ser			
180	185	190	
aac tgg ctg aaa cat atc tcc atc cct gag ttg gct gca ctg cca act		624	
Asn Trp Leu Lys His Ile Ser Ile Pro Glu Leu Ala Ala Leu Pro Thr			
195	200	205	
tat ctc aag aac agg ctc tac ctg cac aac aac ccg ctg ccc tgt gac		672	
Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp			
210	215	220	
tgc agc ctc tac cac ctg ctc cgg cgc tgg cac cag cgg ggc ctg agt		720	
Cys Ser Leu Tyr His Leu Leu Arg Arg Trp His Gln Arg Gly Leu Ser			
225	230	235	240
gcc ctg cat gat ttt gaa cgc gag tac aca tgc ttg gtc ttt aag gtg		768	
Ala Leu His Asp Phe Glu Arg Glu Tyr Thr Cys Leu Val Phe Lys Val			
245	250	255	
tca gag tcc cga gtg cgc ttt ttt gag cac agc cgg gtc ttc aag aac		816	

Ser	Glu	Ser	Arg	Val	Arg	Phe	Phe	Glu	His	Ser	Arg	Val	Phe	Lys	Asn		
260						265							270				
tgc	tct	gtg	gct	gca	gct	cca	ggc	tta	gag	ctg	cct	gaa	gag	cag	ctg	864	
Cys	Ser	Val	Ala	Ala	Ala	Pro	Gly	Leu	Glu	Leu	Pro	Glu	Glu	Gln	Leu		
275						280							285				
cac	gcg	cag	gtg	ggc	cag	tcc	ctg	agg	ctc	ttc	tgc	aac	acc	agt	gtg	912	
His	Ala	Gln	Val	Gly	Gln	Ser	Leu	Arg	Leu	Phe	Cys	Asn	Thr	Ser	Val		
290						295							300				
cct	gcc	act	cgg	gtg	gcc	tgg	gtc	tcc	ccg	aag	aat	gag	ctg	ctt	gtg	960	
Pro	Ala	Thr	Arg	Val	Ala	Trp	Val	Ser	Pro	Lys	Asn	Glu	Leu	Leu	Val		
305						310							315			320	
gcg	cca	gcc	tct	cag	gat	ggt	agc	atc	gct	gtg	ttg	gct	gat	ggc	agc	1008	
Ala	Pro	Ala	Ser	Gln	Asp	Gly	Ser	Ile	Ala	Val	Leu	Ala	Asp	Gly	Ser		
325						330							335				
tta	gcc	ata	ggc	agg	gtg	caa	gag	cag	cac	gca	ggc	gtc	ttt	gtg	tgc	1056	
Leu	Ala	Ile	Gly	Arg	Val	Gln	Glu	Gln	His	Ala	Gly	Val	Phe	Val	Cys		
340						345							350				
ctg	gcc	agt	ggg	ccc	cgc	ctg	cac	cac	aac	cag	aca	ctt	gag	tac	aat	1104	
Leu	Ala	Ser	Gly	Pro	Arg	Leu	His	His	Asn	Gln	Thr	Leu	Glu	Tyr	Asn		
355						360							365				
gtg	agt	gtg	caa	aag	gct	cgc	ccc	gag	cca	gag	act	ttc	aac	aca	ggc	1152	
Val	Ser	Val	Gln	Lys	Ala	Arg	Pro	Glu	Pro	Glu	Thr	Phe	Asn	Thr	Gly		
370						375							380				
ttt	acc	acc	ctg	ggc	tgt	att	gtg	ggc	ctg	gtg	ctg	gtg	ttg	ctc		1200	
Phe	Thr	Thr	Leu	Leu	Gly	Cys	Ile	Val	Gly	Leu	Val	Leu	Val	Leu	Leu		
385						390							395			400	
tac	ttg	ttt	gca	cca	ccc	tgt	cgt	ggc	tgc	tgt	cac	tgc	tgt	cag	cgg	1248	
Tyr	Leu	Phe	Ala	Pro	Pro	Cys	Arg	Gly	Cys	Cys	His	Cys	Cys	Gln	Arg		
405						410							415				
gcc	tgc	cgc	aac	cgt	tgc	tgg	ccc	cg	gca	tcc	agt	cca	ctc	cag	gag	1296	
Ala	Cys	Arg	Asn	Arg	Cys	Trp	Pro	Arg	Ala	Ser	Ser	Pro	Leu	Gln	Glu		
420						425							430				
ctg	agc	gca	cag	tcc	tcc	atg	ctc	agc	act	acg	cca	cca	gat	gca	ccc	1344	
Leu	Ser	Ala	Gln	Ser	Ser	Met	Leu	Ser	Thr	Thr	Pro	Pro	Asp	Ala	Pro		
435						440							445				
agc	cgc	aag	gcc	agt	gtc	cac	aag	cat	gtg	gtc	ttc	ctg	gag	ccg	ggc	1392	
Ser	Arg	Lys	Ala	Ser	Val	His	Lys	His	Val	Val	Phe	Leu	Glu	Pro	Gly		
450						455							460				
aag	aag	ggc	ctc	aat	ggc	cgt	gtg	cag	ctc	gca	gta	gct	gaa	gac	ttc	1440	
Lys	Lys	Gly	Leu	Asn	Gly	Arg	Val	Gln	Leu	Ala	Val	Ala	Glu	Asp	Phe		
465						470							475			480	
gat	ctg	tgc	aac	ccc	atg	ggc	ttg	caa	ctc	aag	gct	ggc	tct	gaa	tca	1488	
Asp	Leu	Cys	Asn	Pro	Met	Gly	Leu	Gln	Leu	Lys	Ala	Gly	Ser	Glu	Ser		

485

490

495

gcc agt tcc acg ggc tca gag ggt ctc gtg atg agc
 Ala Ser Ser Thr Gly Ser Glu Gly Leu Val Met Ser
 500 505

1524

<210> 18
 <211> 508
 <212> PRT
 <213> Mus musculus

<400> 18
 Met Ala Trp Leu Val Leu Ser Gly Ile Leu Leu Cys Met Leu Gly Ala
 1 5 10 15

Gly Leu Gly Thr Ser Asp Leu Glu Asp Val Leu Pro Pro Ala Pro His
 20 25 30

Asn Cys Pro Asp Ile Cys Ile Cys Ala Ala Asp Val Leu Ser Cys Ala
 35 40 45

Gly Arg Gly Leu Gln Asp Leu Pro Val Ala Leu Pro Thr Thr Ala Ala
 50 55 60

Glu Leu Asp Leu Ser His Asn Ala Leu Lys Arg Leu His Pro Gly Trp
 65 70 75 80

Leu Ala Pro Leu Ser Arg Leu Arg Ala Leu His Leu Gly Tyr Asn Lys
 85 90 95

Leu Glu Val Leu Gly His Gly Ala Phe Thr Asn Ala Ser Gly Leu Arg
 100 105 110

Thr Leu Asp Leu Ser Ser Asn Met Leu Arg Met Leu His Thr His Asp
 115 120 125

Leu Asp Gly Leu Glu Glu Leu Glu Lys Leu Leu Phe Asn Asn Ser
 130 135 140

Leu Met His Leu Asp Leu Asp Ala Phe Gln Gly Leu Arg Met Leu Ser
 145 150 155 160

His Leu Tyr Leu Ser Cys Asn Glu Leu Ser Ser Phe Ser Phe Asn His
 165 170 175

Leu His Gly Leu Gly Leu Thr Arg Leu Arg Thr Leu Asp Leu Ser Ser
 180 185 190

Asn Trp Leu Lys His Ile Ser Ile Pro Glu Leu Ala Ala Leu Pro Thr
 195 200 205

Tyr Leu Lys Asn Arg Leu Tyr Leu His Asn Asn Pro Leu Pro Cys Asp
 210 215 220

Cys Ser Leu Tyr His Leu Leu Arg Arg Trp His Gln Arg Gly Leu Ser
 225 230 235 240

Ala Leu His Asp Phe Glu Arg Glu Tyr Thr Cys Leu Val Phe Lys Val
 245 250 255
 Ser Glu Ser Arg Val Arg Phe Phe Glu His Ser Arg Val Phe Lys Asn
 260 265 270
 Cys Ser Val Ala Ala Ala Pro Gly Leu Glu Leu Pro Glu Glu Gln Leu
 275 280 285
 His Ala Gln Val Gly Gln Ser Leu Arg Leu Phe Cys Asn Thr Ser Val
 290 295 300
 Pro Ala Thr Arg Val Ala Trp Val Ser Pro Lys Asn Glu Leu Leu Val
 305 310 315 320
 Ala Pro Ala Ser Gln Asp Gly Ser Ile Ala Val Leu Ala Asp Gly Ser
 325 330 335
 Leu Ala Ile Gly Arg Val Gln Glu Gln His Ala Gly Val Phe Val Cys
 340 345 350
 Leu Ala Ser Gly Pro Arg Leu His His Asn Gln Thr Leu Glu Tyr Asn
 355 360 365
 Val Ser Val Gln Lys Ala Arg Pro Glu Pro Glu Thr Phe Asn Thr Gly
 370 375 380
 Phe Thr Thr Leu Leu Gly Cys Ile Val Gly Leu Val Leu Val Leu Leu
 385 390 395 400
 Tyr Leu Phe Ala Pro Pro Cys Arg Gly Cys Cys His Cys Cys Gln Arg
 405 410 415
 Ala Cys Arg Asn Arg Cys Trp Pro Arg Ala Ser Ser Pro Leu Gln Glu
 420 425 430
 Leu Ser Ala Gln Ser Ser Met Leu Ser Thr Thr Pro Pro Asp Ala Pro
 435 440 445
 Ser Arg Lys Ala Ser Val His Lys His Val Val Phe Leu Glu Pro Gly
 450 455 460
 Lys Lys Gly Leu Asn Gly Arg Val Gln Leu Ala Val Ala Glu Asp Phe
 465 470 475 480
 Asp Leu Cys Asn Pro Met Gly Leu Gln Leu Lys Ala Gly Ser Glu Ser
 485 490 495
 Ala Ser Ser Thr Gly Ser Glu Gly Leu Val Met Ser
 500 505

<210> 19
<211> 3630
<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(3630)

<400> 19

atg cga ccc tcc ggg acg gcc ggg gca gcg ctc ctg gcg ctg ctg gct 48
Met Arg Pro Ser Gly Thr Ala Gly Ala Ala Leu Leu Ala Leu Leu Ala
1 5 10 15

gcg ctc tgc ccg gcg agt cg^g gct ctg gag gaa aag aaa gtt tgc caa 96
Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Lys Val Cys Gln
20 25 30

ggc acg agt aac aag ctc acg cag ttg ggc act ttt gaa gat cat ttt 144
Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe
35 40 45

ctc agc ctc cag agg atg ttc aat aac tgt gag gtg gtc ctt ggg aat 192
Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
50 55 60

ttg gaa att acc tat gtg cag agg aat tat gat ctt tcc ttc tta aag 240
Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
65 70 75 80

acc atc cag gag gtg gct ggt tat gtc ctc att gcc ctc aac aca gtg 288
Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
. 85 90 95

gag cga att cct ttg gaa aac ctg cag atc atc aga gga aat atg tac 336
Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
100 105 110

tac gaa aat tcc tat gcc tta gca gtc tta tct aac tat gat gca aat 384
Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
115 120 125

aaa acc gga ctg aag gag ctg ccc atg aga aat tta cag gaa atc ctg 432
Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
130 135 140

cat ggc gcc gtg cgg ttc agc aac aac cct gcc ctg tgc aac gtg gag 480
His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
145 150 155 160

agc atc cag tgg cgg gac ata gtc agc agt gac ttt ctc agc aac atg 528
Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
165 170 175

tcg atg gac ttc cag aac cac ctg ggc agc tgc caa aag tgt gat cca 576
Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
180 185 190

agc tgt ccc aat ggg agc tgc tgg ggt gca gga gag gag aac tgc cag 624
Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln

195	200	205	
aaa ctg acc aaa atc atc tgt gcc cag cag tgc tcc ggg cgc tgc cgt Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg 210 215 220			672
ggc aag tcc ccc agt gac tgc tgc cac aac cag tgt gct gca ggc tgc Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys 225 230 235 240			720
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Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln			
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Thr Ser Asn Asn Ser Thr Val Ala Cys Ile Asp Arg Asn Gly Leu Gln			
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Ser Cys Pro Ile Lys Glu Asp Ser Phe Leu Gln Arg Tyr Ser Ser Asp			
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ccc aca ggc gcc ttg act gag gac agc ata gac gac acc ttc ctc cca			3264
Pro Thr Gly Ala Leu Thr Glu Asp Ser Ile Asp Asp Thr Phe Leu Pro			
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Val Pro Glu Tyr Ile Asn Gln Ser Val Pro Lys Arg Pro Ala Gly Ser			
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Val Gln Asn Pro Val Tyr His Asn Gln Pro Leu Asn Pro Ala Pro Ser			

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Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
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His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
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Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
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Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
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Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
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Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
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His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
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Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
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Ile	Gly	Ile	Gly	Glu	Phe	Lys	Asp	Ser	Leu	Ser	Ile	Asn	Ala	Thr	Asn		
							340				345				350		355
att	aaa	cac	ttc	aaa	aac	tgc	acc	tcc	atc	agt	ggc	gat	ctc	cac	atc		1279
Ile	Lys	His	Phe	Lys	Asn	Cys	Thr	Ser	Ile	Ser	Gly	Asp	Leu	His	Ile		
							360				365				370		

ctg ccg gtg gca ttt agg ggt gac tcc ttc aca cat act cct cct ctg		1327
Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr Pro Pro Leu		
375	380	385
gat cca cag gaa ctg gat att ctg aaa acc gta aag gaa atc aca ggg		1375
Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu Ile Thr Gly		
390	395	400
ttt ttg ctg att cag gct tgg cct gaa aac agg acg gac ctc cat gcc		1423
Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp Leu His Ala		
405	410	415
ttt gag aac cta gaa atc ata cgc ggc agg acc aag caa cat ggt cag		1471
Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln His Gly Gln		
420	425	430
ttt tct ctt gca gtc gtc agc ctg aac ata aca tcc ttg gga tta cgc		1519
Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu Gly Leu Arg		
440	445	450
tcc ctc aag gag ata agt gat gga gat gtg ata att tca gga aac aaa		1567
Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser Gly Asn Lys		
455	460	465
aat ttg tgc tat gca aat aca ata aac tgg aaa aaa ctg ttt ggg acc		1615
Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu Phe Gly Thr		
470	475	480
tcc ggt cag aaa acc aaa att ata agc aac aga ggt gaa aac agc tgc		1663
Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu Asn Ser Cys		
485	490	495
aag gcc aca ggc cag gtc tgc cat gcc ttg tgc tcc ccc gag ggc tgc		1711
Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro Glu Gly Cys		
500	505	510
515		
tgg ggc ccg gag ccc agg gac tgc gtc tct tgc cgg aat gtc agc cga		1759
Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn Val Ser Arg		
520	525	530
ggc agg gaa tgc gtg gac aag tgc aac ctt ctg gag ggt gag cca agg		1807
Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly Glu Pro Arg		
535	540	545
gag ttt gtg gag aac tct gag tgc ata cag tgc cac cca gag tgc ctg		1855
Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro Glu Cys Leu		
550	555	560
cct cag gcc atg aac atc acc tgc aca gga cgg gga cca gac aac tgt		1903
Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro Asp Asn Cys		
565	570	575
atc cag tgt gcc cac tac att gac ggc ccc cac tgc gtc aag acc tgc		1951
Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val Lys Thr Cys		
580	585	590
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ccg gca gga gtc atg gga gaa aac aac acc ctg gtc tgg aag tac gca		1999

Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp Lys Tyr Ala			
600	605	610	
gac gcc ggc cat gtg tgc cac ctg tgc cat cca aac tgc acc tac gga		2047	
Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys Thr Tyr Gly			
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tgc act ggg cca ggt ctt gaa ggc tgt cca acg aat ggg cct aag atc		2095	
Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly Pro Lys Ile			
630	635	640	
ccg tcc atc gcc act ggg atg gtg ggg gcc ctc ctc ttg ctg ctg gtg		2143	
Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu Leu Val			
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Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His Ile Val Arg			
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aag cgc acg ctg cgg agg ctg ctg cag gag agg gag ctt gtg gag cct		2239	
Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu Val Glu Pro			
680	685	690	
ctt aca ccc agt gga gaa gct ccc aac caa gct ctc ttg agg atc ttg		2287	
Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala Leu Leu Arg Ile Leu			
695	700	705	
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Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser Gly Ala Phe			
710	715	720	
ggc acg gtg tat aag gga ctc tgg atc cca gaa ggt gag aaa gtt aaa		2383	
Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu Lys Val Lys			
725	730	735	
att ccc gtc gct atc aag gaa tta aga gaa gca aca tct ccg aaa gcc		2431	
Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala Thr Ser Pro Lys Ala			
740	745	750	755
aac aag gaa atc ctc gat gaa gcc tac gtg atg gcc agc gtg gac aac		2479	
Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Ser Val Asp Asn			
760	765	770	
ccc cac gtg tgc cgc ctg ggc atc tgc ctc acc tcc acc gtg cag		2527	
Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln			
775	780	785	
ctc atc acg cag ctc atg ccc ttc ggc tgc ctc ctg gac tat gtc cgg		2575	
Leu Ile Thr Gln Leu Met Pro Phe Gly Cys Leu Leu Asp Tyr Val Arg			
790	795	800	
gaa cac aaa gac aat att ggc tcc cag tac ctg ctc aac tgg tgt gtg		2623	
Glu His Lys Asp Asn Ile Gly Ser Gln Tyr Leu Leu Asn Trp Cys Val			
805	810	815	
cag atc gca aag ggc atg aac tac ttg gag gac cgt cgc ttg gtg cac		2671	
Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg Leu Val His			

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cgc gac ctg gca gcc agg aac gta ctg gtg aaa aca ccg cag cat gtc Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro Gln His Val 840	845	850		2719
aag atc aca gat ttt ggg ctg gcc aaa ctg ctg ggt gcg gaa gag aaa Lys Ile Thr Asp Phe Gly Leu Ala Lys Leu Leu Gly Ala Glu Glu Lys 855	860	865		2767
gaa tac cat gca gaa gga ggc aaa gtg cct atc aag tgg atg gca ttg Glu Tyr His Ala Glu Gly Lys Val Pro Ile Lys Trp Met Ala Leu 870	875	880		2815
gaa tca att tta cac aga atc tat acc cac cag agt gat gtc tgg agc Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln Ser Asp Val Trp Ser 885	890	895		2863
tac ggg gtg acc gtt tgg gag ttg atg acc ttt gga tcc aag cca tat Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Ser Lys Pro Tyr 900	905	910		2911
gac gga atc cct gcc agc gag atc tcc tcc atc ctg gag aaa gga gaa Asp Gly Ile Pro Ala Ser Glu Ile Ser Ser Ile Leu Glu Lys Gly Glu 920	925	930		2959
cgc ctc cct cag cca ccc ata tgt acc atc gat gtc tac atg atc atg Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr Met Ile Met 935	940	945		3007
gtc aag tgc tgg atg ata gac gca gat agt cgc cca aag ttc cgt gag Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg Pro Lys Phe Arg Glu 950	955	960		3055
ttg atc atc gaa ttc tcc aaa atg gcc cga gac ccc cag cgc tac ctt Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln Arg Tyr Leu 965	970	975		3103
gtc att cag ggg gat gaa aga atg cat ttg cca agt cct aca gac tcc Val Ile Gln Gly Asp Glu Arg Met His Leu Pro Ser Pro Thr Asp Ser 980	985	990		3151
aac ttc tac cgt gcc ctg atg gat gaa gaa gac atg gac gac gtg gtg Asn Phe Tyr Arg Ala Leu Met Asp Glu Glu Asp Met Asp Asp Val Val 1000	1005	1010		3199
gat gcc gag tac ctc atc cca cag cag ggc ttc ttc agc agc ccc Asp Ala Asp Glu Tyr Leu Ile Pro Gln Gln Gly Phe Phe Ser Ser Pro 1015	1020	1025		3247
tcc acg tca cgg act ccc ctc ctg agc tct ctg agt gca acc agc aac Ser Thr Ser Arg Thr Pro Leu Leu Ser Ser Leu Ser Ala Thr Ser Asn 1030	1035	1040		3295
aat tcc acc gtg gct tgc att gat aga aat ggg ctg caa agc tgt ccc Asn Ser Thr Val Ala Cys Ile Asp Arg Asn Gly Leu Gln Ser Cys Pro 1045	1050	1055		3343

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Ile Lys Glu Asp Ser Phe Leu Gln Arg Tyr Ser Ser Asp Pro Thr Gly				
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gcc ttg act gag gac agc ata gac gac acc ttc ctc cca gtg cct gaa		3439		
Ala Leu Thr Glu Asp Ser Ile Asp Asp Thr Phe Leu Pro Val Pro Glu				
1080	1085	1090		
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Tyr Ile Asn Gln Ser Val Pro Lys Arg Pro Ala Gly Ser Val Gln Asn				
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cct gtc tat cac aat cag cct ctg aac ccc gcg ccc agc aga gac cca		3535		
Pro Val Tyr His Asn Gln Pro Leu Asn Pro Ala Pro Ser Arg Asp Pro				
1110	1115	1120		
cac tac cag gac ccc cac agc act gca gtg ggc aac ccc gag tat ctc		3583		
His Tyr Gln Asp Pro His Ser Thr Ala Val Gly Asn Pro Glu Tyr Leu				
1125	1130	1135		
aac act gtc cag ccc acc tgt gtc aac agc aca ttc gac agc cct gcc		3631		
Asn Thr Val Gln Pro Thr Cys Val Asn Ser Thr Phe Asp Ser Pro Ala				
1140	1145	1150	1155	
cac tgg gcc cag aaa ggc agc cac caa att agc ctg gac aac cct gac		3679		
His Trp Ala Gln Lys Gly Ser His Gln Ile Ser Leu Asp Asn Pro Asp				
1160	1165	1170		
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Tyr Gln Gln Asp Phe Pro Lys Glu Ala Lys Pro Asn Gly Ile Phe				
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 35 40 45
 Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
 50 55 60
 Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
 65 70 75 80
 Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
 85 90 95
 Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
 100 105 110
 Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
 115 120 125
 Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
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 His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
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 Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
 165 170 175
 Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
 180 185 190
 Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
 195 200 205
 Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg
 210 215 220
 Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
 225 230 235 240
 Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
 245 250 255
 Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
 260 265 270
 Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
 275 280 285
 Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
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 Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
 305 310 315 320
 Asp Gly Val Arg Lys Cys Lys Cys Glu Gly Pro Cys Arg Lys Val
 325 330 335
 Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
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 Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
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 Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
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 Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
 385 390 395 400
 Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
 405 410 415
 Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
 420 425 430
 His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
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 Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
 450 455 460
 Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
 465 470 475 480
 Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu

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Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn			
515	520	525	
Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly			
530	535	540	
Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro			
545	550	555	560
Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro			
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Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val			
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Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp			
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Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys			
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Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly			
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Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu			
645	650	655	
Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His			
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Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu			
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Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala Leu Leu			
690	695	700	
Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser			
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Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu			
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Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala Thr Ser			
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Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu Thr Ser			
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Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg			
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Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro			
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Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys Leu Leu Gly Ala			
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Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile Lys Trp			
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Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln Ser Asp			
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Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Ser			
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Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser Ser Ile Leu Glu			
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Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr			
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 Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln
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ggg acc	gcf aga	acc aca	ctg ctg	gtg	ctg	ctg	acc	gcf	283
Gly	Thr	Ala	Arg	Thr	Leu	Leu	Val	Leu	
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gca ggt	ggg gcf	ttg gag	gaa aag	aaa gtc	tgc	caa ggc	aca agt	aac	331
Ala	Gly	Ala	Gly	Ala	Leu	Glu	Lys	Val	
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agg ctc	acc caa	ctg ggc	act ttt	gaa gac	cac	ttt ctg	agc	ctg	379
Arg	Leu	Thr	Gln	Leu	Gly	Thr	Phe	Glu	
					40	45		Asp	
Arg	Tyr	Asn	Asn	Cys	Glu	Val	Val	His	
					55	60		Phe	
agg atg	tac aac	aac tgt	gaa gtg	gtc ctt	ggg aac	ttg gaa	att acc		427
Arg	Met	Tyr	Asn	Asn	Cys	Glu	Val	Gly	
					55	60		Asn	
tat gtg	caa agg	aat tac	gac ctt	tcc ttc	tta aag	acc atc	cag gag		475
Tyr	Val	Gln	Arg	Asn	Tyr	Asp	Leu	Ser	
					70	75		Phe	
gtg gcc	ggc tat	gtc ctc	att gcc	ctc aac	acc gtg	gag aga	atc cct		523
Val	Ala	Gly	Tyr	Val	Ile	Ala	Leu	Asn	
					85	90		Thr	
ttg gag	aac ctg	cag atc	atc agg	gga aat	gct ctt	tat gaa	aac acc		571
Leu	Glu	Asn	Leu	Gln	Ile	Arg	Gly	Asn	
					105	110		Ala	
ttt gcc	tta gcc	atc ctg	tcc aac	tat ggg	aca aac	aga act	ggg ctt		619
Tyr	Ala	Leu	Ala	Ile	Leu	Ser	Asn	Tyr	
					120	125		Gly	
agg gaa	ctg ccc	atg cgg	aac tta	cag gaa	atc ctg	att ggt	gct gtg		667
Arg	Glu	Leu	Pro	Met	Arg	Asn	Leu	Gln	
					135	140		Ile	
cga ttc	agc aac	aac ccc	atc ctc	tgc aat	atg gat	act atc	cag tgg		715
Arg	Phe	Ser	Asn	Asn	Pro	Ile	Leu	Cys	
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agg gac	atc gtc	caa aac	gtc ttt	atg agc	aac atg	tca atg	gac tta		763
Arg	Asp	Ile	Val	Gln	Asn	Val	Phe	Met	
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cag agc	cat ccg	agc agt	tgc ccc	aaa tgt	gat cca	agc tgt	ccc aat		811
Gln	Ser	His	Pro	Ser	Ser	Cys	Pro	Lys	
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gga agc	tgc tgg	gga gga	gga gag	gag aac	tgc cag	aaa ttg	acc aaa		859
Gly	Ser	Cys	Trp	Gly	Gly	Glu	Asn	Cys	
					200	205		Gln	
atc atc	tgt gcc	cag caa	tgt tcc	cat cgc	tgt cgt	ggc agg	tcc ccc		907

Ile Ile Cys Ala Gln Gln Cys Ser His Arg Cys Arg Gly Arg Ser Pro			
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agt gac tgc tgc cac aac caa tgt gct gcg ggg tgt aca ggg ccc cga	955		
Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys Thr Gly Pro Arg			
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gag agt gac tgt ctg gtc tgc caa aag ttc caa gat gag gcc aca tgc	1003		
Glu Ser Asp Cys Leu Val Cys Gln Lys Phe Gln Asp Glu Ala Thr Cys			
245	250	255	260
aaa gac acc tgc cca cca ctc atg ctg tac aac ccc acc acc tat cag	1051		
Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro Thr Thr Tyr Gln			
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Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly Ala Thr Cys Val			
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Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His Gly Ser Cys Val			
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cga gcc tgt ggg cct gac tac tac gaa gtg gaa gaa gat ggc atc cgc	1195		
Arg Ala Cys Gly Pro Asp Tyr Tyr Glu Val Glu Asp Gly Ile Arg			
310	315	320	
aag tgt aaa aaa tgt gat ggg ccc tgt cgc aaa gtt tgt aat ggc ata	1243		
Lys Cys Lys Cys Asp Gly Pro Cys Arg Lys Val Cys Asn Gly Ile			
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ggc att ggt gaa ttt aaa gac aca ctc tcc ata aat gct aca aac atc	1291		
Gly Ile Gly Glu Phe Lys Asp Thr Leu Ser Ile Asn Ala Thr Asn Ile			
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aaa cac ttc aaa tac tgc act gcc atc agc ggg gac ctt cac atc ctg	1339		
Lys His Phe Lys Tyr Cys Thr Ala Ile Ser Gly Asp Leu His Ile Leu			
360	365	370	
cca gtg gcc ttt aag ggg gat tct ttc acg cgc act cct cct cta gac	1387		
Pro Val Ala Phe Lys Gly Asp Ser Phe Thr Arg Thr Pro Pro Leu Asp			
375	380	385	
cca cga gaa cta gaa att cta aaa acc gta aag gaa ata aca ggc ttt	1435		
Pro Arg Glu Leu Glu Ile Leu Lys Thr Val Lys Glu Ile Thr Gly Phe			
390	395	400	
ttg ctg att cag gct tgg cct gat aac tgg act gac ctc cat gct ttc	1483		
Leu Leu Ile Gln Ala Trp Pro Asp Asn Trp Thr Asp Leu His Ala Phe			
405	410	415	420
gag aac cta gaa ata ata cgt ggc aga aca aag caa cat ggt cag ttt	1531		
Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln His Gly Gln Phe			
425	430	435	
tct ttg gcg gtc gtt ggc ctg aac atc aca tca ctg ggg ctg cgt tcc	1579		
Ser Leu Ala Val Val Gly Leu Asn Ile Thr Ser Leu Gly Leu Arg Ser			

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ttg tgc tac gca aac aca ata aac tgg aaa aaa ctc ttc ggg aca ccc Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu Phe Gly Thr Pro 470	475	480	1675
aat cag aaa acc aaa atc atg aac aac aga gct gag aaa gac tgc aag Asn Gln Lys Thr Lys Ile Met Asn Asn Arg Ala Glu Lys Asp Cys Lys 485	490	495	1723
gcc gtg aac cac gtc tgc aat cct tta tgc tcc tcg gaa ggc tgc tgg Ala Val Asn His Val Cys Asn Pro Leu Cys Ser Ser Glu Gly Cys Trp 505	510	515	1771
ggc cct gag ccc agg gac tgt gtc tcc tgc cag aat gtg agc aga ggc Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Gln Asn Val Ser Arg Gly 520	525	530	1819
agg gag tgc gtg gag aaa tgc aac atc ctg gag ggg gaa cca agg gag Arg Glu Cys Val Glu Lys Cys Asn Ile Leu Glu Gly Glu Pro Arg Glu 535	540	545	1867
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cag gcc atg aac atc acc tgt aca ggc agg ggg cca gac aac tgc atc Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro Asp Asn Cys Ile 565	570	575	1963
cag tgt gcc cac tac att gat ggc cca cac tgt gtc aag acc tgc cca Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val Lys Thr Cys Pro 585	590	595	2011
gct ggc atc atg gga gag aac aac act ctg gtc tgg aag tat gca gat Ala Gly Ile Met Gly Glu Asn Asn Thr Leu Val Trp Lys Tyr Ala Asp 600	605	610	2059
gcc aat aat gtc tgc cac cta tgc cac gcc aac tgt acc tat gga tgt Ala Asn Asn Val Cys His Leu Cys His Ala Asn Cys Thr Tyr Gly Cys 615	620	625	2107
gct ggg cca ggt ctt caa gga tgt gaa gtg tgg cca tct ggg cca aag Ala Gly Pro Gly Leu Gln Gly Cys Glu Val Trp Pro Ser Gly Pro Lys 630	635	640	2155
ata cca tct att gcc act ggg att gtg ggt ggc ctc ctc ttc ata gtg Ile Pro Ser Ile Ala Thr Gly Ile Val Gly Gly Leu Leu Phe Ile Val 645	650	655	2203
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695 700 705	
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745 750 755	
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760 765 770	
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775 780 785	
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790 795 800	
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825 830 835	
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Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
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 Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Ala Leu
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 Thr Ile Gln Trp Arg Asp Ile Val Gln Asn Val Phe Met Ser Asn Met
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 Ser Met Asp Leu Gln Ser His Pro Ser Ser Cys Pro Lys Cys Asp Pro
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 Ser Cys Pro Asn Gly Ser Cys Trp Gly Gly Glu Glu Asn Cys Gln
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 Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser His Arg Cys Arg
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 Gly Arg Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
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 Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Gln Lys Phe Gln Asp
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Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro		560
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Lys Tyr Ala Asp Ala Asn Val Cys His Leu Cys His Ala Asn Cys		
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Ser Gly Pro Lys Ile Pro Ser Ile Ala Thr Gly Ile Val Gly Gly Leu		640
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Leu Phe Ile Val Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg		
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 gtcacagtga agtcagccag agcagggtcg ttaaaactctg taaaaatttgt cataagggtg 180
 tcaggtattt cttaactggct tccaaagaaa catagataaa gaaatcttcc ctgtggcttc 240
 ccttggcagg ctgcattcag aaggctctc agttgaagaa agagcttggaa ggacaacagc 300
 acaacaggag agtaaaagat gcccccaggcc tgaggcctcc gctcaggcag ccgcacatctgg 360

ggtcaatcat actcacccat cccgggcat gctccagcaa aatcaagctg tttcttttg	420
aaagttcaaa ctcataaga tt atg ctg ctc act ctt atc att ctg ttg cca	472
Met Leu Leu Thr Leu Ile Ile Leu Leu Pro	
1 5 10	
gta gtt tca aaa ttt agt ttt gtt agt ctc tca gca ccg cag cac tgg	520
Val Val Ser Lys Phe Ser Phe Val Ser Leu Ser Ala Pro Gln His Trp	
15 20 25	
agc tgt cct gaa ggt act ctc gca gga aat ggg aat tct act tgt gtg	568
Ser Cys Pro Glu Gly Thr Leu Ala Gly Asn Gly Asn Ser Thr Cys Val	
30 35 40	
ggt cct gca ccc ttc tta att ttc tcc cat gga aat agt atc ttt agg	616
Gly Pro Ala Pro Phe Leu Ile Phe Ser His Gly Asn Ser Ile Phe Arg	
45 50 55	
att gac aca gaa gga acc aat tat gag caa ttg gtg gtg gat gct ggt	664
Ile Asp Thr Glu Gly Thr Asn Tyr Glu Gln Leu Val Val Asp Ala Gly	
60 65 70	
gtc tca gtg atc atg gat ttt cat tat aat gag aaa aga atc tat tgg	712
Val Ser Val Ile Met Asp Phe His Tyr Asn Glu Lys Arg Ile Tyr Trp	
75 80 85 90	
gtg gat tta gaa aga caa ctt ttg caa aga gtt ttt ctg aat ggg tca	760
Val Asp Leu Glu Arg Gln Leu Leu Gln Arg Val Phe Leu Asn Gly Ser	
95 100 105	
agg caa gag aga gta tgt aat ata gag aaa aat gtt tct gga atg gca	808
Arg Gln Glu Arg Val Cys Asn Ile Glu Lys Asn Val Ser Gly Met Ala	
110 115 120	
ata aat tgg ata aat gaa gaa gtt att tgg tca aat caa cag gaa gga	856
Ile Asn Trp Ile Asn Glu Glu Val Ile Trp Ser Asn Gln Gln Glu Gly	
125 130 135	
atc att aca gta aca gat atg aaa gga aat aat tcc cac att ctt tta	904
Ile Ile Thr Val Thr Asp Met Lys Gly Asn Asn Ser His Ile Leu Leu	
140 145 150	
agt gct tta aaa tat cct gca aat gta gca gtt gat cca gta gaa agg	952
Ser Ala Leu Lys Tyr Pro Ala Asn Val Ala Val Asp Pro Val Glu Arg	
155 160 165 170	
ttt ata ttt tgg tct tca gag gtg gct gga agc ctt tat aga gca gat	1000
Phe Ile Phe Trp Ser Ser Glu Val Ala Gly Ser Leu Tyr Arg Ala Asp	
175 180 185	
ctc gat ggt gtg gga gtg aag gct ctg ttg gag aca tca gag aaa ata	1048
Leu Asp Gly Val Gly Val Lys Ala Leu Leu Glu Thr Ser Glu Lys Ile	
190 195 200	
aca gct gtg tca ttg gat gtg ctt gat aag cgg ctg ttt tgg att cag	1096
Thr Ala Val Ser Leu Asp Val Leu Asp Lys Arg Leu Phe Trp Ile Gln	
205 210 215	

tac aac aga gaa gga agc aat tct ctt att tgc tcc tgt gat tat gat		1144	
Tyr Asn Arg Glu Gly Ser Asn Ser Leu Ile Cys Ser Cys Asp Tyr Asp			
220	225	230	
gga ggt tct gtc cac att agt aaa cat cca aca cag cat aat ttg ttt		1192	
Gly Gly Ser Val His Ile Ser Lys His Pro Thr Gln His Asn Leu Phe			
235	240	245	250
gca atg tcc ctt ttt ggt gac cgt atc ttc tat tca aca tgg aaa atg		1240	
Ala Met Ser Leu Phe Gly Asp Arg Ile Phe Tyr Ser Thr Trp Lys Met			
255	260	265	
aag aca att tgg ata gcc aac aaa cac act gga aag gac atg gtt aga		1288	
Lys Thr Ile Trp Ile Ala Asn Lys His Thr Gly Lys Asp Met Val Arg			
270	275	280	
att aac ctc cat tca tca ttt gta cca ctt ggt gaa ctg aaa gta gtg		1336	
Ile Asn Leu His Ser Ser Phe Val Pro Leu Gly Glu Leu Lys Val Val			
285	290	295	
cat cca ctt gca caa ccc aag gca gaa gat gac act tgg gag cct gag		1384	
His Pro Leu Ala Gln Pro Lys Ala Glu Asp Asp Thr Trp Glu Pro Glu			
300	305	310	
cag aaa ctt tgc aaa ttg agg aaa gga aac tgc agc agc act gtg tgt		1432	
Gln Lys Leu Cys Lys Leu Arg Lys Gly Asn Cys Ser Ser Thr Val Cys			
315	320	325	330
ggg caa gac ctc cag tca cac ttg tgc atg tgt gca gag gga tac gcc		1480	
Gly Gln Asp Leu Gln Ser His Leu Cys Met Cys Ala Glu Gly Tyr Ala			
335	340	345	
cta agt cga gac cgg aag tac tgt gaa gat gtt aat gaa tgt gct ttt		1528	
Leu Ser Arg Asp Arg Lys Tyr Cys Glu Asp Val Asn Glu Cys Ala Phe			
350	355	360	
tgg aat cat ggc tgt act ctt ggg tgt aaa aac acc cct gga tcc tat		1576	
Trp Asn His Gly Cys Thr Leu Gly Cys Lys Asn Thr Pro Gly Ser Tyr			
365	370	375	
tac tgc acg tgc cct gta gga ttt gtt ctg ctt cct gat ggg aaa cga		1624	
Tyr Cys Thr Cys Pro Val Gly Phe Val Leu Leu Pro Asp Gly Lys Arg			
380	385	390	
tgt cat caa ctt gtt tcc tgt cca cgc aat gtg tct gaa tgc agc cat		1672	
Cys His Gln Leu Val Ser Cys Pro Arg Asn Val Ser Glu Cys Ser His			
395	400	405	410
gac tgt gtt ctg aca tca gaa ggt ccc tta tgt ttc tgt cct gaa ggc		1720	
Asp Cys Val Leu Thr Ser Glu Gly Pro Leu Cys Phe Cys Pro Glu Gly			
415	420	425	
tca gtg ctt gag aga gat ggg aaa aca tgt agc ggt tgt tcc tca ccc		1768	
Ser Val Leu Glu Arg Asp Gly Lys Thr Cys Ser Gly Cys Ser Ser Pro			
430	435	440	

gat aat ggt gga tgt agc cag ctc tgc gtt cct ctt agc cca gta tcc Asp Asn Gly Gly Cys Ser Gln Leu Cys Val Pro Leu Ser Pro Val Ser 445 450 455	1816
tgg gaa tgt gat tgc ttt cct ggg tat gac cta caa ctg gat gaa aaa Trp Glu Cys Asp Cys Phe Pro Gly Tyr Asp Leu Gln Leu Asp Glu Lys 460 465 470	1864
agc tgt gca gct tca gga cca caa cca ttt ttg ctg ttt gcc aat tct Ser Cys Ala Ala Ser Gly Pro Gln Pro Phe Leu Leu Phe Ala Asn Ser 475 480 485 490	1912
caa gat att cga cac atg cat ttt gat gga aca gac tat gga act ctg Gln Asp Ile Arg His Met His Phe Asp Gly Thr Asp Tyr Gly Thr Leu 495 500 505	1960
ctc agc cag cag atg gga atg gtt tat gcc cta gat cat gac cct gtg Leu Ser Gln Gln Met Gly Met Val Tyr Ala Leu Asp His Asp Pro Val 510 515 520	2008
gaa aat aag ata tac ttt gcc cat aca gcc ctg aag tgg ata gag aga Glu Asn Lys Ile Tyr Phe Ala His Thr Ala Leu Lys Trp Ile Glu Arg 525 530 535	2056
gct aat atg gat ggt tcc cag cga gaa agg ctt att gag gaa gga gta Ala Asn Met Asp Gly Ser Gln Arg Glu Arg Leu Ile Glu Glu Gly Val 540 545 550	2104
gat gtg cca gaa ggt ctt gct gtg gac tgg att ggc cgt aga ttc tat Asp Val Pro Glu Gly Leu Ala Val Asp Trp Ile Gly Arg Arg Phe Tyr 555 560 565 570	2152
tgg aca gac aga ggg aaa tct ctg att gga agg agt gat tta aat ggg Trp Thr Asp Arg Gly Lys Ser Leu Ile Gly Arg Ser Asp Leu Asn Gly 575 580 585	2200
aaa cgt tcc aaa ata atc act aag gag aac atc tct caa cca cga gga Lys Arg Ser Lys Ile Ile Thr Lys Glu Asn Ile Ser Gln Pro Arg Gly 590 595 600	2248
att gct gtt cat cca atg gcc aag aga tta ttc tgg act gat aca ggg Ile Ala Val His Pro Met Ala Lys Arg Leu Phe Trp Thr Asp Thr Gly 605 610 615	2296
att aat cca cga att gaa agt tct tcc ctc caa ggc ctt ggc cgt ctg Ile Asn Pro Arg Ile Glu Ser Ser Leu Gln Gly Leu Gly Arg Leu 620 625 630	2344
gtt ata gcc agc tct gat cta atc tgg ccc agt gga ata acg att gac Val Ile Ala Ser Ser Asp Leu Ile Trp Pro Ser Gly Ile Thr Ile Asp 635 640 645 650	2392
ttc tta act gac aag ttg tac tgg tgc gat gcc aag cag tct gtg att Phe Leu Thr Asp Lys Leu Tyr Trp Cys Asp Ala Lys Gln Ser Val Ile 655 660 665	2440
gaa atg gcc aat ctg gat ggt tca aaa cgc cga aga ctt acc cag aat	2488

Glu Met Ala Asn Leu Asp Gly Ser Lys Arg Arg Arg Leu Thr Gln Asn		
670	675	680
gat gta ggt cac cca ttt gct gta gca gtg ttt gag gat tat gtg tgg	2536	
Asp Val Gly His Pro Phe Ala Val Ala Val Phe Glu Asp Tyr Val Trp		
685	690	695
ttc tca gat tgg gct atg cca tca gta ata aga gta aac aag agg act	2584	
Phe Ser Asp Trp Ala Met Pro Ser Val Ile Arg Val Asn Lys Arg Thr		
700	705	710
ggc aaa gat aga gta cgt ctc caa ggc agc atg ctg aag ccc tca tca	2632	
Gly Lys Asp Arg Val Arg Leu Gln Gly Ser Met Leu Lys Pro Ser Ser		
715	720	725
730		
ctg gtt gtg gtt cat cca ttg gca aaa cca gga gca gat ccc tgc tta	2680	
Leu Val Val Val His Pro Leu Ala Lys Pro Gly Ala Asp Pro Cys Leu		
735	740	745
tat caa aac gga ggc tgt gaa cat att tgc aaa aag agg ctt gga act	2728	
Tyr Gln Asn Gly Gly Cys Glu His Ile Cys Lys Lys Arg Leu Gly Thr		
750	755	760
gct tgg tgt tcg tgt cgt gaa ggt ttt atg aaa gcc tca gat ggg aaa	2776	
Ala Trp Cys Ser Cys Arg Glu Gly Phe Met Lys Ala Ser Asp Gly Lys		
765	770	775
acg tgt ctg gct ctg gat ggt cat cag ctg ttg gca ggt ggt gaa gtt	2824	
Thr Cys Leu Ala Leu Asp Gly His Gln Leu Leu Ala Gly Gly Glu Val		
780	785	790
gat cta aag aac caa gta aca cca ttg gac atc ttg tcc aag act aga	2872	
Asp Leu Lys Asn Gln Val Thr Pro Leu Asp Ile Leu Ser Lys Thr Arg		
795	800	805
810		
gtg tca gaa gat aac att aca gaa tct caa cac atg cta gtg gct gaa	2920	
Val Ser Glu Asp Asn Ile Thr Glu Ser Gln His Met Leu Val Ala Glu		
815	820	825
atc atg gtg tca gat caa gat gac tgt gct cct gtg gga tgc agc atg	2968	
Ile Met Val Ser Asp Gln Asp Asp Cys Ala Pro Val Gly Cys Ser Met		
830	835	840
tat gct cggttgttatttca gag gga gag gat gcc aca tgt cag tgt ttg	3016	
Tyr Ala Arg Cys Ile Ser Glu Gly Glu Asp Ala Thr Cys Gln Cys Leu		
845	850	855
aaa gga ttt gct ggg gat gga aaa cta tgt tct gat ata gat gaa tgt	3064	
Lys Gly Phe Ala Gly Asp Gly Lys Leu Cys Ser Asp Ile Asp Glu Cys		
860	865	870
gag atg ggt gtc cca gtg tgc ccc cct gcc tcc aag tgc atc aac	3112	
Glu Met Gly Val Pro Val Cys Pro Pro Ala Ser Ser Lys Cys Ile Asn		
875	880	885
890		
acc gaa ggt ggt tat gtc tgc cggtgc tca gaa ggc tac caa gga gat	3160	
Thr Glu Gly Tyr Val Cys Arg Cys Ser Glu Gly Tyr Gln Gly Asp		

895	900	905	
ggg att cac tgt ctt gat att gat gag tgc caa ctg ggg gtg cac agc Gly Ile His Cys Leu Asp Ile Asp Glu Cys Gln Leu Gly Val His Ser 910	915	920	3208
tgt gga gag aat gcc agc tgc aca aat aca gag gga ggc tat acc tgc Cys Gly Glu Asn Ala Ser Cys Thr Asn Thr Glu Gly Gly Tyr Thr Cys 925	930	935	3256
atg tgt gct gga cgc ctg tct gaa cca gga ctg att tgc cct gac tct Met Cys Ala Gly Arg Leu Ser Glu Pro Gly Leu Ile Cys Pro Asp Ser 940	945	950	3304
act cca ccc cct cac ctc agg gaa gat gac cac cac tat tcc gta aga Thr Pro Pro Pro His Leu Arg Glu Asp Asp His His Tyr Ser Val Arg 955	960	965	3352
aat agt gac tct gaa tgt ccc ctg tcc cac gat ggg tac tgc ctc cat Asn Ser Asp Ser Glu Cys Pro Leu Ser His Asp Gly Tyr Cys Leu His 975	980	985	3400
gat ggt gtg tgc atg tat att gaa gca ttg gac aag tat gca tgc aac Asp Gly Val Cys Met Tyr Ile Glu Ala Leu Asp Lys Tyr Ala Cys Asn 990	995	1000	3448
tgt gtt gtt ggc tac atc ggg gag cga tgt cag tac cga gac ctg aag Cys Val Val Gly Tyr Ile Gly Glu Arg Cys Gln Tyr Arg Asp Leu Lys 1005	1010	1015	3496
tgg tgg gaa ctg cgc cac gct ggc cac ggg cag cag cag aag gtc atc Trp Trp Glu Leu Arg His Ala Gly His Gly Gln Gln Lys Val Ile 1020	1025	1030	3544
gtg gtg gct gtc tgc gtg gtg ctt gtc atg ctg ctc ctc ctg agc Val Val Ala Val Cys Val Val Leu Val Met Leu Leu Leu Leu Ser 1035	1040	1045	3592
ctg tgg ggg gcc cac tac tac agg act cag aag ctg cta tcg aaa aac Leu Trp Gly Ala His Tyr Tyr Arg Thr Gln Lys Leu Leu Ser Lys Asn 1055	1060	1065	3640
cca aag aat cct tat gag gag tcg agc aga gat gtg agg agt cgc agg Pro Lys Asn Pro Tyr Glu Glu Ser Ser Arg Asp Val Arg Ser Arg Arg 1070	1075	1080	3688
cct gct gac act gag gat ggg atg tcc tct tgc cct caa cct tgg ttt Pro Ala Asp Thr Glu Asp Gly Met Ser Ser Cys Pro Gln Pro Trp Phe 1085	1090	1095	3736
gtg gtt ata aaa gaa cac caa gac ctc aag aat ggg ggt caa cca gtg Val Val Ile Lys Glu His Gln Asp Leu Lys Asn Gly Gly Gln Pro Val 1100	1105	1110	3784
gct ggt gag gat ggc cag gca gca gat ggg tca atg caa cca act tca Ala Gly Glu Asp Gly Gln Ala Ala Asp Gly Ser Met Gln Pro Thr Ser 1115	1120	1125	3832

tgg agg cag gag ccc cag tta tgt gga atg ggc aca gag caa ggc tgc	3880
Trp Arg Gln Glu Pro Gln Leu Cys Gly Met Gly Thr Glu Gln Gly Cys	
1135 1140 1145	
tgg att cca gta tcc agt gat aag ggc tcc tgt ccc cag gta atg gag	3928
Trp Ile Pro Val Ser Ser Asp Lys Gly Ser Cys Pro Gln Val Met Glu	
1150 1155 1160	
cga agc ttt cat atg ccc tcc tat ggg aca cag acc ctt gaa ggg ggt	3976
Arg Ser Phe His Met Pro Ser Tyr Gly Thr Gln Thr Leu Glu Gly Gly	
1165 1170 1175	
gtc gag aag ccc cat tct ctc cta tca gct aac cca tta tgg caa caa	4024
Val Glu Lys Pro His Ser Leu Leu Ser Ala Asn Pro Leu Trp Gln Gln	
1180 1185 1190	
agg gcc ctg gac cca cca cac caa atg gag ctg act cag tga	4066
Arg Ala Leu Asp Pro Pro His Gln Met Glu Leu Thr Gln	
1195 1200 1205	
aaactggaat taaaaggaaa gtcaagaaga atgaactatg tcgatgcaca gtatctttc	4126
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ggcgtggtcc atgctgatga tttgc当地 atgagttgt atgaatcaat gaaaaatgta	4606
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acattttatt tttaaaatat tacacaggag gccttc当地 tttcttagtc attactgtcc	4726
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 <212> PRT
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 <220>
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<223> Human EGF

<400> 26

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Phe	Val	Ser	Leu	Ser	Ala	Pro	Gln	His	Trp	Ser	Cys	Pro	Glu	Gly	Thr
					20				25					30	
Leu	Ala	Gly	Asn	Gly	Asn	Ser	Thr	Cys	Val	Gly	Pro	Ala	Pro	Phe	Leu
					35			40						45	
Ile	Phe	Ser	His	Gly	Asn	Ser	Ile	Phe	Arg	Ile	Asp	Thr	Glu	Gly	Thr
					50			55						60	
Asn	Tyr	Glu	Gln	Leu	Val	Val	Asp	Ala	Gly	Val	Ser	Val	Ile	Met	Asp
					65			70						80	
Phe	His	Tyr	Asn	Glu	Lys	Arg	Ile	Tyr	Trp	Val	Asp	Leu	Glu	Arg	Gln
					85			90						95	
Leu	Leu	Gln	Arg	Val	Phe	Leu	Asn	Gly	Ser	Arg	Gln	Glu	Arg	Val	Cys
					100			105						110	
Asn	Ile	Glu	Lys	Asn	Val	Ser	Gly	Met	Ala	Ile	Asn	Trp	Ile	Asn	Glu
					115			120						125	
Glu	Val	Ile	Trp	Ser	Asn	Gln	Gln	Glu	Gly	Ile	Ile	Thr	Val	Thr	Asp
					130			135						140	
Met	Lys	Gly	Asn	Asn	Ser	His	Ile	Leu	Leu	Ser	Ala	Leu	Lys	Tyr	Pro
					145			150						160	
Ala	Asn	Val	Ala	Val	Asp	Pro	Val	Glu	Arg	Phe	Ile	Phe	Trp	Ser	Ser
					165			170						175	
Glu	Val	Ala	Gly	Ser	Leu	Tyr	Arg	Ala	Asp	Leu	Asp	Gly	Val	Gly	Val
					180			185						190	
Lys	Ala	Leu	Leu	Glu	Thr	Ser	Glu	Ile	Thr	Ala	Val	Ser	Leu	Asp	
					195			200						205	
Val	Leu	Asp	Lys	Arg	Leu	Phe	Trp	Ile	Gln	Tyr	Asn	Arg	Glu	Gly	Ser
					210			215						220	
Asn	Ser	Leu	Ile	Cys	Ser	Cys	Asp	Tyr	Asp	Gly	Gly	Ser	Val	His	Ile
					225			230						240	
Ser	Lys	His	Pro	Thr	Gln	His	Asn	Leu	Phe	Ala	Met	Ser	Leu	Phe	Gly
					245			250						255	
Asp	Arg	Ile	Phe	Tyr	Ser	Thr	Trp	Lys	Met	Lys	Thr	Ile	Trp	Ile	Ala
					260			265						270	
Asn	Lys	His	Thr	Gly	Lys	Asp	Met	Val	Arg	Ile	Asn	Leu	His	Ser	Ser
					275			280						285	
Phe	Val	Pro	Leu	Gly	Glu	Leu	Lys	Val	Val	His	Pro	Leu	Ala	Gln	Pro
					290			295						300	
Lys	Ala	Glu	Asp	Asp	Thr	Trp	Glu	Pro	Glu	Gln	Lys	Leu	Cys	Lys	Leu
					305			310						320	
Arg	Lys	Gly	Asn	Cys	Ser	Ser	Thr	Val	Cys	Gly	Gln	Asp	Leu	Gln	Ser
					325			330						335	
His	Leu	Cys	Met	Cys	Ala	Glu	Gly	Tyr	Ala	Leu	Ser	Arg	Asp	Arg	Lys
					340			345						350	
Tyr	Cys	Glu	Asp	Val	Asn	Glu	Cys	Ala	Phe	Trp	Asn	His	Gly	Cys	Thr
					355			360						365	
Leu	Gly	Cys	Lys	Asn	Thr	Pro	Gly	Ser	Tyr	Tyr	Cys	Thr	Cys	Pro	Val
					370			375						380	
Gly	Phe	Val	Leu	Leu	Pro	Asp	Gly	Lys	Arg	Cys	His	Gln	Leu	Val	Ser
					385			390						400	
Cys	Pro	Arg	Asn	Val	Ser	Glu	Cys	Ser	His	Asp	Cys	Val	Leu	Thr	Ser
					405			410						415	
Glu	Gly	Pro	Leu	Cys	Phe	Cys	Pro	Glu	Gly	Ser	Val	Leu	Glu	Arg	Asp
					420			425						430	

Gly Lys Thr Cys Ser Gly Cys Ser Ser Pro Asp Asn Gly Gly Cys Ser
 435 440 445
 Gln Leu Cys Val Pro Leu Ser Pro Val Ser Trp Glu Cys Asp Cys Phe
 450 455 460
 Pro Gly Tyr Asp Leu Gln Leu Asp Glu Lys Ser Cys Ala Ala Ser Gly
 465 470 475 480
 Pro Gln Pro Phe Leu Leu Phe Ala Asn Ser Gln Asp Ile Arg His Met
 485 490 495
 His Phe Asp Gly Thr Asp Tyr Gly Thr Leu Leu Ser Gln Gln Met Gly
 500 505 510
 Met Val Tyr Ala Leu Asp His Asp Pro Val Glu Asn Lys Ile Tyr Phe
 515 520 525
 Ala His Thr Ala Leu Lys Trp Ile Glu Arg Ala Asn Met Asp Gly Ser
 530 535 540
 Gln Arg Glu Arg Leu Ile Glu Glu Gly Val Asp Val Pro Glu Gly Leu
 545 550 555 560
 Ala Val Asp Trp Ile Gly Arg Arg Phe Tyr Trp Thr Asp Arg Gly Lys
 565 570 575
 Ser Leu Ile Gly Arg Ser Asp Leu Asn Gly Lys Arg Ser Lys Ile Ile
 580 585 590
 Thr Lys Glu Asn Ile Ser Gln Pro Arg Gly Ile Ala Val His Pro Met
 595 600 605
 Ala Lys Arg Leu Phe Trp Thr Asp Thr Gly Ile Asn Pro Arg Ile Glu
 610 615 620
 Ser Ser Ser Leu Gln Gly Leu Gly Arg Leu Val Ile Ala Ser Ser Asp
 625 630 635 640
 Leu Ile Trp Pro Ser Gly Ile Thr Ile Asp Phe Leu Thr Asp Lys Leu
 645 650 655
 Tyr Trp Cys Asp Ala Lys Gln Ser Val Ile Glu Met Ala Asn Leu Asp
 660 665 670
 Gly Ser Lys Arg Arg Arg Leu Thr Gln Asn Asp Val Gly His Pro Phe
 675 680 685
 Ala Val Ala Val Phe Glu Asp Tyr Val Trp Phe Ser Asp Trp Ala Met
 690 695 700
 Pro Ser Val Ile Arg Val Asn Lys Arg Thr Gly Lys Asp Arg Val Arg
 705 710 715 720
 Leu Gln Gly Ser Met Leu Lys Pro Ser Ser Leu Val Val Val His Pro
 725 730 735
 Leu Ala Lys Pro Gly Ala Asp Pro Cys Leu Tyr Gln Asn Gly Gly Cys
 740 745 750
 Glu His Ile Cys Lys Lys Arg Leu Gly Thr Ala Trp Cys Ser Cys Arg
 755 760 765
 Glu Gly Phe Met Lys Ala Ser Asp Gly Lys Thr Cys Leu Ala Leu Asp
 770 775 780
 Gly His Gln Leu Leu Ala Gly Gly Glu Val Asp Leu Lys Asn Gln Val
 785 790 795 800
 Thr Pro Leu Asp Ile Leu Ser Lys Thr Arg Val Ser Glu Asp Asn Ile
 805 810 815
 Thr Glu Ser Gln His Met Leu Val Ala Glu Ile Met Val Ser Asp Gln
 820 825 830
 Asp Asp Cys Ala Pro Val Gly Cys Ser Met Tyr Ala Arg Cys Ile Ser
 835 840 845
 Glu Gly Glu Asp Ala Thr Cys Gln Cys Leu Lys Gly Phe Ala Gly Asp
 850 855 860
 Gly Lys Leu Cys Ser Asp Ile Asp Glu Cys Glu Met Gly Val Pro Val
 865 870 875 880
 Cys Pro Pro Ala Ser Ser Lys Cys Ile Asn Thr Glu Gly Gly Tyr Val

885	890	895
Cys Arg Cys Ser Glu Gly Tyr Gln	Gly Asp Gly Ile His	Cys Leu Asp
900	905	910
Ile Asp Glu Cys Gln Leu Gly Val His Ser Cys Gly	Glu Asn Ala Ser	
915	920	925
Cys Thr Asn Thr Glu Gly Gly Tyr Thr Cys Met	Cys Ala Gly Arg Leu	
930	935	940
Ser Glu Pro Gly Leu Ile Cys Pro Asp Ser Thr Pro	Pro Pro His Leu	
945	950	955
Arg Glu Asp Asp His His Tyr Ser Val Arg Asn Ser	Asp Ser Glu Cys	
965	970	975
Pro Leu Ser His Asp Gly Tyr Cys Leu His Asp	Gly Val Cys Met Tyr	
980	985	990
Ile Glu Ala Leu Asp Lys Tyr Ala Cys Asn Cys Val	Val Gly Tyr Ile	
995	1000	1005
Gly Glu Arg Cys Gln Tyr Arg Asp Leu Lys Trp	Trp Glu Leu Arg His	
1010	1015	1020
Ala Gly His Gly Gln Gln Lys Val Ile Val Val Ala	Val Cys Val	
1025	1030	1035
Val Val Leu Val Met Leu Leu Leu Ser Leu Trp	Gly Ala His Tyr.	
1045	1050	1055
Tyr Arg Thr Gln Lys Leu Leu Ser Lys Asn Pro	Lys Asn Pro Tyr Glu	
1060	1065	1070
Glu Ser Ser Arg Asp Val Arg Ser Arg Arg Pro	Ala Asp Thr Glu Asp	
1075	1080	1085
Gly Met Ser Ser Cys Pro Gln Pro Trp Phe Val	Val Ile Lys Glu His	
1090	1095	1100
Gln Asp Leu Lys Asn Gly Gly Gln Pro Val Ala	Gly Glu Asp Gly Gln	
1105	1110	1115
Ala Ala Asp Gly Ser Met Gln Pro Thr Ser Trp	Arg Gln Glu Pro Gln	
1125	1130	1135
Leu Cys Gly Met Gly Thr Glu Gln Gly Cys Trp	Ile Pro Val Ser Ser	
1140	1145	1150
Asp Lys Gly Ser Cys Pro Gln Val Met Glu Arg	Ser Phe His Met Pro	
1155	1160	1165
Ser Tyr Gly Thr Gln Thr Leu Glu Gly Gly Val	Glu Lys Pro His Ser	
1170	1175	1180
Leu Leu Ser Ala Asn Pro Leu Trp Gln Gln Arg	Ala Leu Asp Pro Pro	
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His Gln Met Glu Leu Thr Gln		1200
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 gtttctctt catccttgc ctgggtgtgc ctgtctcagg gagaaaatcag tcacctgcag 180
 gccttgcagg gctcttaggc tctggaaat ttgtcatacg ggtgtcaggt acttcttatt 240
 gctgtccaaa gggaaaaaaa aagtgagaca aagaactctc ccggagcctt tccggctgca 300
 ctcagaggct ctcgagaggt gcagaaggac ctggaaaggc agctaaataa aag atg 356
Met
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 ccc tgg ggc cga agg cca acc tgg ctg ttg ctc gcc ttc ctg ctg gtg 404
 Pro Trp Gly Arg Arg Pro Thr Trp Leu Leu Leu Ala Phe Leu Leu Val
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10
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 ttt tta aag att agc ata ctc agc gtc aca gca tgg cag acc ggg aac 452
 Phe Leu Lys Ile Ser Ile Leu Ser Val Thr Ala Trp Gln Thr Gly Asn
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25
30

 tgt cag cca ggt cct ctc gag aga agc gag aga agc ggg act tgt gcc 500
 Cys Gln Pro Gly Pro Leu Glu Arg Ser Glu Arg Ser Gly Thr Cys Ala
35
40
45

 ggt cct gcc ccc ttc cta gtt ttc tca caa gga aag agc atc tct cg 548
 Gly Pro Ala Pro Phe Leu Val Phe Ser Gln Gly Lys Ser Ile Ser Arg
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 att gac cca gat gga aca aat cac cag caa ttg gtg gtg gat gct ggc 596
 Ile Asp Pro Asp Gly Thr Asn His Gln Gln Leu Val Val Asp Ala Gly
70
75
80

 atc tca gca gac atg gat att cat tat aaa aaa gag aga ctc tat tgg 644
 Ile Ser Ala Asp Met Asp Ile His Tyr Lys Lys Glu Arg Leu Tyr Trp
85
90
95

 gtg gat gta gaa aga caa gtt ttg cta aga gtt ttc ctt aac ggg aca 692
 Val Asp Val Glu Arg Gln Val Leu Leu Arg Val Phe Leu Asn Gly Thr
100
105
110

 gga cta gag aaa gtg tgc aat gta gag agg aag gtg tct ggg ctg gcc 740
 Gly Leu Glu Lys Val Cys Asn Val Glu Arg Lys Val Ser Gly Leu Ala
115
120
125

 ata gac tgg ata gat gat gaa gtt ctc tgg gta gac caa cag aac gga 788
 Ile Asp Trp Ile Asp Asp Glu Val Leu Trp Val Asp Gln Gln Asn Gly
130
135
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145

 gtc atc acc gta aca gat atg aca ggg aaa aat tcc cga gtt ctt cta 836
 Val Ile Thr Val Thr Asp Met Thr Gly Lys Asn Ser Arg Val Leu Leu
150
155
160

 agt tcc tta aaa cat ccg tca aat ata gca gtg gat cca ata gag agg 884
 Ser Ser Leu Lys His Pro Ser Asn Ile Ala Val Asp Pro Ile Glu Arg

165	170	175	
ttg atg ttt tgg tct tca gag gtg acc ggc agc ctt cac aga gca cac Leu Met Phe Trp Ser Ser Glu Val Thr Gly Ser Leu His Arg Ala His 180	185	190	932
ctc aaa ggt gtt gat gta aaa aca ctg ctg gag aca ggg gga ata tcg Leu Lys Gly Val Asp Val Lys Thr Leu Leu Glu Thr Gly Gly Ile Ser 195	200	205	980
gtg ctg act ctg gat gtc ctg gac aaa cgg ctc ttc tgg gtt cag gac Val Leu Thr Leu Asp Val Leu Asp Lys Arg Leu Phe Trp Val Gln Asp 210	215	220	1028
agt ggc gaa gga agc cac gct tac att cat tcc tgt gat tat gag ggt Ser Gly Glu Gly Ser His Ala Tyr Ile His Ser Cys Asp Tyr Glu Gly 230	235	240	1076
ggc tcc gtc cgt ctt atc agg cat caa gca cgg cac agt ttg tct tca Gly Ser Val Arg Leu Ile Arg His Gln Ala Arg His Ser Leu Ser Ser 245	250	255	1124
atg gcc ttt ttt ggt gat cggt atc ttc tac tca gtg ttg aaa agc aag Met Ala Phe Phe Gly Asp Arg Ile Phe Tyr Ser Val Leu Lys Ser Lys 260	265	270	1172
gcg att tgg ata gcc aac aaa cac acg ggg aag gac acg gtc agg att Ala Ile Trp Ile Ala Asn Lys His Thr Gly Lys Asp Thr Val Arg Ile 275	280	285	1220
aac ctc cat cca tcc ttt gtg aca cct gga aaa ctg atg gta gta cac Asn Leu His Pro Ser Phe Val Thr Pro Gly Lys Leu Met Val Val His 290	295	300	1268
cct cgt gca cag ccc agg aca gag gac gct gct aag gat cct gac ccc Pro Arg Ala Gln Pro Arg Thr Glu Asp Ala Ala Lys Asp Pro Asp Pro 310	315	320	1316
gaa ctt ctc aaa cag agg gga aga cca tgc cgc ttc ggt ctc tgt gag Glu Leu Leu Lys Gln Arg Gly Arg Pro Cys Arg Phe Gly Leu Cys Glu 325	330	335	1364
cga gac ccc aag tcc cac tcg agc gca tgc gct gag ggc tac acg tta Arg Asp Pro Lys Ser His Ser Ala Cys Ala Glu Gly Tyr Thr Leu 340	345	350	1412
agc cga gac cgg aag tac tgc gaa gat gtc aat gaa tgt gcc act cag Ser Arg Asp Arg Lys Tyr Cys Glu Asp Val Asn Glu Cys Ala Thr Gln 355	360	365	1460
aat cac ggc tgt act ctt ggg tgt gaa aac acc cct gga tcc tat cac Asn His Gly Cys Thr Leu Gly Cys Glu Asn Thr Pro Gly Ser Tyr His 370	375	380	1508
tgc aca tgc ccc aca gga ttt gtt ctg ctt cct gat ggg aaa caa tgt Cys Thr Cys Pro Thr Gly Phe Val Leu Leu Pro Asp Gly Lys Gln Cys 390	395	400	1556

cac gaa ctt gtt tcc tgc cca ggc aac gta tca aag tgc agt cat ggc		1604	
His Glu Leu Val Ser Cys Pro Gly Asn Val Ser Lys Cys Ser His Gly			
405	410	415	
tgt gtc ctg aca tca gat ggt ccc cg ^g tgc atc tgt cct gca ggt tca		1652	
Cys Val Leu Thr Ser Asp Gly Pro Arg Cys Ile Cys Pro Ala Gly Ser			
420	425	430	
gtg ctt ggg aga gat ggg aag act tgc act ggt tgt tca tcg cct gac		1700	
Val Leu Gly Arg Asp Gly Lys Thr Cys Thr Gly Cys Ser Ser Pro Asp			
435	440	445	
aat ggt gga tgc agc cag atc tgt ctt cct ctc agg cca gga tcc tgg		1748	
Asn Gly Gly Cys Ser Gln Ile Cys Leu Pro Leu Arg Pro Gly Ser Trp			
450	455	460	465
gaa tgt gat tgc ttt cct ggg tat gac cta cag tca gac cga aag agc		1796	
Glu Cys Asp Cys Phe Pro Gly Tyr Asp Leu Gln Ser Asp Arg Lys Ser			
470	475	480	
tgt gca gct tca gga cca cag cca ctt tta ctg ttt gca aat tcc cag		1844	
Cys Ala Ala Ser Gly Pro Gln Pro Leu Leu Leu Phe Ala Asn Ser Gln			
485	490	495	
gac atc cga cac atg cat ttt gat gga aca gac tac aaa gtt ctg ctc		1892	
Asp Ile Arg His Met His Phe Asp Gly Thr Asp Tyr Lys Val Leu Leu			
500	505	510	
agc cgg cag atg gga atg gtt ttt gcc ttg gat tat gac cct gtg gaa		1940	
Ser Arg Gln Met Gly Met Val Phe Ala Leu Asp Tyr Asp Pro Val Glu			
515	520	525	
agc aag ata tat ttt gca cag aca gcc ctg aag tgg ata gag agg gct		1988	
Ser Lys Ile Tyr Phe Ala Gln Thr Ala Leu Lys Trp Ile Glu Arg Ala			
530	535	540	545
aat atg gat ggg tcc cag cga gaa aga ctg atc aca gaa gga gta gat		2036	
Asn Met Asp Gly Ser Gln Arg Glu Arg Leu Ile Thr Glu Gly Val Asp			
550	555	560	
acg ctt gaa ggt ctt gcc ctg gac tgg att ggc cgg aga atc tac tgg		2084	
Thr Leu Glu Gly Leu Ala Leu Asp Trp Ile Gly Arg Arg Ile Tyr Trp			
565	570	575	
aca gac agt ggg aag tct gtt gga ggg agc gat ctg agc ggg aag		2132	
Thr Asp Ser Gly Lys Ser Val Val Gly Gly Ser Asp Leu Ser Gly Lys			
580	585	590	
cat cat cga ata atc atc cag gag aga atc tcg agg ccg cga gga ata		2180	
His His Arg Ile Ile Gln Glu Arg Ile Ser Arg Pro Arg Gly Ile			
595	600	605	
gct gtg cat cca agg gcc agg aga ctg ttc tgg acg gac gta ggg atg		2228	
Ala Val His Pro Arg Ala Arg Arg Leu Phe Trp Thr Asp Val Gly Met			
610	615	620	625

tct cca .cg att gaa agc gct tcc ctt caa ggt tcc gac cg ^g gtg ctg Ser Pro Arg Ile Glu Ser Ala Ser Leu Gln Gly Ser Asp Arg Val Leu 630 635 640	2276
ata gcc agc tcc aat cta ctg gaa ccc agt gga atc acg att gac tac Ile Ala Ser Ser Asn Leu Leu Glu Pro Ser Gly Ile Thr Ile Asp Tyr 645 650 655	2324
tta aca gac act ttg tac tgg tgt gac acc aag agg tct gtg att gaa Leu Thr Asp Thr Leu Tyr Trp Cys Asp Thr Lys Arg Ser Val Ile Glu 660 665 670	2372
atg gcc aat ctg gat ggc tcc aaa cgc cga aga ctt atc cag aac gac Met Ala Asn Leu Asp Gly Ser Lys Arg Arg Arg Leu Ile Gln Asn Asp 675 680 685	2420
gta ggt cac ccc ttc tct cta gcc gtg ttt gag gat cac ctg tgg gtc Val Gly His Pro Phe Ser Leu Ala Val Phe Glu Asp His Leu Trp Val 690 695 700 705	2468
tcg gat tgg gct atc cca tcg gta ata agg gtg aac aag agg act ggc Ser Asp Trp Ala Ile Pro Ser Val Ile Arg Val Asn Lys Arg Thr Gly 710 715 720	2516
caa aac agg gta cgt ctt caa ggc agc atg ctg aag ccc tcg tca ctg Gln Asn Arg Val Arg Leu Gln Gly Ser Met Leu Lys Pro Ser Ser Leu 725 730 735	2564
gtt gtg gtc cat cca ttg gca aaa cca ggt gca gat ccc tgc tta tac Val Val His Pro Leu Ala Lys Pro Gly Ala Asp Pro Cys Leu Tyr 740 745 750	2612
agg aat gga ggc tgt gaa cac atc tgc caa gag agc ctg ggc aca gct Arg Asn Gly Gly Cys Glu His Ile Cys Gln Glu Ser Leu Gly Thr Ala 755 760 765	2660
cg ^g tgt ttg tgt cgt gaa ggt ttt gtg aag gcc tgg gat ggg aaa atg Arg Cys Leu Cys Arg Glu Gly Phe Val Lys Ala Trp Asp Gly Lys Met 770 775 780 785	2708
tgt ctc cct cag gat tat cca atc ctg tca ggt gaa aat gct gat ctt Cys Leu Pro Gln Asp Tyr Pro Ile Leu Ser Gly Glu Asn Ala Asp Leu 790 795 800	2756
agt aaa gag gtg aca tca ctg agc aac tcc act cag gct gaa gta cca Ser Lys Glu Val Thr Ser Leu Ser Asn Ser Thr Gln Ala Glu Val Pro 805 810 815	2804
gac gat gat ggg aca gaa tct tcc aca cta gtg gct gaa atc atg gtg Asp Asp Asp Gly Thr Glu Ser Ser Thr Leu Val Ala Glu Ile Met Val 820 825 830	2852
tca ggc atg aac tat gaa gat gac tgt ggt ccc ggg ggg tgt gga agc Ser Gly Met Asn Tyr Glu Asp Asp Cys Gly Pro Gly Gly Cys Gly Ser 835 840 845	2900
cat gct cga tgc gtt tca gac gga gag act gct gag tgt cag tgt ctg	2948

His Ala Arg Cys Val Ser Asp Gly Glu Thr Ala Glu Cys Gln Cys Leu			
850	855	860	865
aaa ggg ttt gcc agg gat gga aac ctg tgt tct gat ata gat gag tgt			2996
Lys Gly Phe Ala Arg Asp Gly Asn Leu Cys Ser Asp Ile Asp Glu Cys			
870	875	880	
gtg ctg gct aga tcg gac tgc ccc agc acc tcg tcc agg tgc atc aac			3044
Val Leu Ala Arg Ser Asp Cys Pro Ser Thr Ser Arg Cys Ile Asn			
885	890	895	
act gaa ggt ggc tac gtc tgc aga tgc tca gaa ggc tac gaa gga gac			3092
Thr Glu Gly Gly Tyr Val Cys Arg Cys Ser Glu Gly Tyr Glu Gly Asp			
900	905	910	
ggg atc tcc tgt ttc gat att gac gag tgc cag cgg ggg gcg cac aac			3140
Gly Ile Ser Cys Phe Asp Ile Asp Glu Cys Gln Arg Gly Ala His Asn			
915	920	925	
tgc gct gag aat gcc gcc tgc acc aac acg gag gga ggc tac aac tgc			3188
Cys Ala Glu Asn Ala Ala Cys Thr Asn Thr Glu Gly Gly Tyr Asn Cys			
930	935	940	945
acc tgc gca ggc cgc cca tcc tcg ccc gga cgg agt tgc cct gac tct			3236
Thr Cys Ala Gly Arg Pro Ser Ser Pro Gly Arg Ser Cys Pro Asp Ser			
950	955	960	
acc gca ccc tct ctc ctt ggg gaa gat ggc cac cat ttg gac cga aat			3284
Thr Ala Pro Ser Leu Leu Gly Glu Asp Gly His His Leu Asp Arg Asn			
965	970	975	
agt tat cca gga tgc cca tcc tca tat gat gga tac tgc ctc aat ggt			3332
Ser Tyr Pro Gly Cys Pro Ser Ser Tyr Asp Gly Tyr Cys Leu Asn Gly			
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Gly Val Cys Met His Ile Glu Ser Leu Asp Ser Tyr Thr Cys Asn Cys			
995	1000	1005	
gtt att ggc tat tct ggg gat cga tgt cag act cga gac cta cga tgg			3428
Val Ile Gly Tyr Ser Gly Asp Arg Cys Gln Thr Arg Asp Leu Arg Trp			
1010	1015	1020	1025
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Trp Glu Leu Arg His Ala Gly Tyr Gly Gln Lys His Asp Ile Met Val			
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gtg gct gtc tgc atg gtg gca ctg gtc ctg ctg ctc ttg ggg atg			3524
Val Ala Val Cys Met Val Ala Leu Val Leu Leu Leu Leu Gly Met			
1045	1050	1055	
tgg ggg act tac tac tac agg act cgg aag cag cta tca aac ccc cca			3572
Trp Gly Thr Tyr Tyr Arg Thr Arg Lys Gln Leu Ser Asn Pro Pro			
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aag aac cct tgt gat gag cca agc gga agt gtg agc agc agc ggg ccc			3620
Lys Asn Pro Cys Asp Glu Pro Ser Gly Ser Val Ser Ser Gly Pro			

1075	1080	1085	
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Asp Ser Ser Ser Gly Ala Ala Val Ala Ser Cys Pro Gln Pro Trp Phe			
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Val Val Leu Glu Lys His Gln Asp Pro Lys Asn Gly Ser Leu Pro Ala			
1110	1115	1120	
gat ggt acg aat ggt gca gta gta gat gct ggc ctg tct ccc tcc ctg			3764
Asp Gly Thr Asn Gly Ala Val Val Asp Ala Gly Leu Ser Pro Ser Leu			
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cag ctc ggg tca gtg cat ctg act tca tgg aga cag aag ccc cac ata			3812
Gln Leu Gly Ser Val His Leu Thr Ser Trp Arg Gln Lys Pro His Ile			
1140	1145	1150	
gat gga atg ggc aca ggg caa agc tgc tgg att cca cca tca agt gac			3860
Asp Gly Met Gly Thr Gly Gln Ser Cys Trp Ile Pro Pro Ser Ser Asp			
1155	1160	1165	
aga gga ccc cag gaa ata gag gga aac tcc cac cta ccc tcc tac aga			3908
Arg Gly Pro Gln Glu Ile Glu Gly Asn Ser His Leu Pro Ser Tyr Arg			
1170	1175	1180	1185
cct gtg ggg ccg gag aag ctg cat tct ctc cag tca gct aat gga tcg			3956
Pro Val Gly Pro Glu Lys Leu His Ser Leu Gln Ser Ala Asn Gly Ser			
1190	1195	1200	
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Cys His Glu Arg Ala Pro Asp. Leu Pro Arg Gln Thr Glu Pro Val Lys			
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atgatggtag agtgctacag acttggtaact ccagttcca cg ^g cta ^t atca ctgctcgctc			4117
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cttttatac tataaaaatc ttcaatgaa aatatttaac tttaaaaaca ttaccttaat			4597
cattgtctt tcttcttgaa gtcttccc ^a g ^t gaaaacgc tcaattctgc tg ^t ttccata			4657

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4749

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Asn Cys Gln Pro Gly Pro Leu Glu Arg Ser Glu Arg Ser Gly Thr Cys
35 40 45
Ala Gly Pro Ala Pro Phe Leu Val Phe Ser Gln Gly Lys Ser Ile Ser
50 55 60
Arg Ile Asp Pro Asp Gly Thr Asn His Gln Gln Leu Val Val Asp Ala
65 70 75 80
Gly Ile Ser Ala Asp Met Asp Ile His Tyr Lys Lys Glu Arg Leu Tyr
85 90 95
Trp Val Asp Val Glu Arg Gln Val Leu Leu Arg Val Phe Leu Asn Gly
100 105 110
Thr Gly Leu Glu Lys Val Cys Asn Val Glu Arg Lys Val Ser Gly Leu
115 120 125
Ala Ile Asp Trp Ile Asp Asp Glu Val Leu Trp Val Asp Gln Gln Asn
130 135 140
Gly Val Ile Thr Val Thr Asp Met Thr Gly Lys Asn Ser Arg Val Leu
145 150 155 160
Leu Ser Ser Leu Lys His Pro Ser Asn Ile Ala Val Asp Pro Ile Glu
165 170 175
Arg Leu Met Phe Trp Ser Ser Glu Val Thr Gly Ser Leu His Arg Ala
180 185 190
His Leu Lys Gly Val Asp Val Lys Thr Leu Leu Glu Thr Gly Gly Ile
195 200 205
Ser Val Leu Thr Leu Asp Val Leu Asp Lys Arg Leu Phe Trp Val Gln
210 215 220
Asp Ser Gly Glu Gly Ser His Ala Tyr Ile His Ser Cys Asp Tyr Glu
225 230 235 240
Gly Gly Ser Val Arg Leu Ile Arg His Gln Ala Arg His Ser Leu Ser
245 250 255
Ser Met Ala Phe Phe Gly Asp Arg Ile Phe Tyr Ser Val Leu Lys Ser
260 265 270
Lys Ala Ile Trp Ile Ala Asn Lys His Thr Gly Lys Asp Thr Val Arg
275 280 285
Ile Asn Leu His Pro Ser Phe Val Thr Pro Gly Lys Leu Met Val Val
290 295 300
His Pro Arg Ala Gln Pro Arg Thr Glu Asp Ala Ala Lys Asp Pro Asp
305 310 315 320
Pro Glu Leu Leu Lys Gln Arg Gly Arg Pro Cys Arg Phe Gly Leu Cys
325 330 335

Glu Arg Asp Pro Lys Ser His Ser Ser Ala Cys Ala Glu Gly Tyr Thr
 340 345 350
 Leu Ser Arg Asp Arg Lys Tyr Cys Glu Asp Val Asn Glu Cys Ala Thr
 355 360 365
 Gln Asn His Gly Cys Thr Leu Gly Cys Glu Asn Thr Pro Gly Ser Tyr
 370 375 380
 His Cys Thr Cys Pro Thr Gly Phe Val Leu Leu Pro Asp Gly Lys Gln
 385 390 395 400
 Cys His Glu Leu Val Ser Cys Pro Gly Asn Val Ser Lys Cys Ser His
 405 410 415
 Gly Cys Val Leu Thr Ser Asp Gly Pro Arg Cys Ile Cys Pro Ala Gly
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 Ser Val Leu Gly Arg Asp Gly Lys Thr Cys Thr Gly Cys Ser Ser Pro
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 465 470 475 480
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 Gln Asp Ile Arg His Met His Phe Asp Gly Thr Asp Tyr Lys Val Leu
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 Leu Ser Arg Gln Met Gly Met Val Phe Ala Leu Asp Tyr Asp Pro Val
 515 520 525
 Glu Ser Lys Ile Tyr Phe Ala Gln Thr Ala Leu Lys Trp Ile Glu Arg
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 Ala Asn Met Asp Gly Ser Gln Arg Glu Arg Leu Ile Thr Glu Gly Val
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 Asp Thr Leu Glu Gly Leu Ala Leu Asp Trp Ile Gly Arg Arg Ile Tyr
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 Trp Thr Asp Ser Gly Lys Ser Val Val Gly Gly Ser Asp Leu Ser Gly
 580 585 590
 Lys His His Arg Ile Ile Ile Gln Glu Arg Ile Ser Arg Pro Arg Gly
 595 600 605
 Ile Ala Val His Pro Arg Ala Arg Arg Leu Phe Trp Thr Asp Val Gly
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 Met Ser Pro Arg Ile Glu Ser Ala Ser Leu Gln Gly Ser Asp Arg Val
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 Leu Ile Ala Ser Ser Asn Leu Leu Glu Pro Ser Gly Ile Thr Ile Asp
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 Asp Val Gly His Pro Phe Ser Leu Ala Val Phe Glu Asp His Leu Trp
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 Gly Gln Asn Arg Val Arg Leu Gln Gly Ser Met Leu Lys Pro Ser Ser
 725 730 735
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 740 745 750
 Tyr Arg Asn Gly Gly Cys Glu His Ile Cys Gln Glu Ser Leu Gly Thr
 755 760 765
 Ala Arg Cys Leu Cys Arg Glu Gly Phe Val Lys Ala Trp Asp Gly Lys
 770 775 780
 Met Cys Leu Pro Gln Asp Tyr Pro Ile Leu Ser Gly Glu Asn Ala Asp

785	790	795	800
Leu Ser Lys Glu Val Thr Ser Leu Ser Asn Ser Thr Gln Ala Glu Val			
805	810	815	
Pro Asp Asp Asp Gly Thr Glu Ser Ser Thr Leu Val Ala Glu Ile Met			
820	825	830	
Val Ser Gly Met Asn Tyr Glu Asp Asp Cys Gly Pro Gly Gly Cys Gly			
835	840	845	
Ser His Ala Arg Cys Val Ser Asp Gly Glu Thr Ala Glu Cys Gln Cys			
850	855	860	
Leu Lys Gly Phe Ala Arg Asp Gly Asn Leu Cys Ser Asp Ile Asp Glu			
865	870	875	880
Cys Val Leu Ala Arg Ser Asp Cys Pro Ser Thr Ser Ser Arg Cys Ile			
885	890	895	
Asn Thr Glu Gly Gly Tyr Val Cys Arg Cys Ser Glu Gly Tyr Glu Gly			
900	905	910	
Asp Gly Ile Ser Cys Phe Asp Ile Asp Glu Cys Gln Arg Gly Ala His			
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Asn Cys Ala Glu Asn Ala Ala Cys Thr Asn Thr Glu Gly Gly Tyr Asn			
930	935	940	
Cys Thr Cys Ala Gly Arg Pro Ser Ser Pro Gly Arg Ser Cys Pro Asp			
945	950	955	960
Ser Thr Ala Pro Ser Leu Leu Gly Glu Asp Gly His His Leu Asp Arg			
965	970	975	
Asn Ser Tyr Pro Gly Cys Pro Ser Ser Tyr Asp Gly Tyr Cys Leu Asn			
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Gly Gly Val Cys Met His Ile Glu Ser Leu Asp Ser Tyr Thr Cys Asn			
995	1000	1005	
Cys Val Ile Gly Tyr Ser Gly Asp Arg Cys Gln Thr Arg Asp Leu Arg			
1010	1015	1020	
Trp Trp Glu Leu Arg His Ala Gly Tyr Gly Gln Lys His Asp Ile Met			
1025	1030	1035	1040
Val Val Ala Val Cys Met Val Ala Leu Val Leu Leu Leu Leu Gly			
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Met Trp Gly Thr Tyr Tyr Arg Thr Arg Lys Gln Leu Ser Asn Pro			
1060	1065	1070	
Pro Lys Asn Pro Cys Asp Glu Pro Ser Gly Ser Val Ser Ser Ser Gly			
1075	1080	1085	
Pro Asp Ser Ser Ser Gly Ala Ala Val Ala Ser Cys Pro Gln Pro Trp			
1090	1095	1100	
Phe Val Val Leu Glu Lys His Gln Asp Pro Lys Asn Gly Ser Leu Pro			
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Ala Asp Gly Thr Asn Gly Ala Val Val Asp Ala Gly Leu Ser Pro Ser			
1125	1130	1135	
Leu Gln Leu Gly Ser Val His Leu Thr Ser Trp Arg Gln Lys Pro His			
1140	1145	1150	
Ile Asp Gly Met Gly Thr Gly Gln Ser Cys Trp Ile Pro Pro Ser Ser			
1155	1160	1165	
Asp Arg Gly Pro Gln Glu Ile Glu Gly Asn Ser His Leu Pro Ser Tyr			
1170	1175	1180	
Arg Pro Val Gly Pro Glu Lys Leu His Ser Leu Gln Ser Ala Asn Gly			
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gag aac agc acg tcc ccg ctg agt gca gac ccg ccc gtg gct gca gca 148
 Glu Asn Ser Thr Ser Pro Leu Ser Ala Asp Pro Pro Val Ala Ala Ala
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gtg gtg tcc cat ttt aat gac tgc cca gat tcc cac act cag ttc tgc 196
 Val Val Ser His Phe Asn Asp Cys Pro Asp Ser His Thr Gln Phe Cys
 40 45 50 55

ttc cat gga acc tgc agg ttt ttg gtg cag gag gac aag cca gca tgt 244
 Phe His Gly Thr Cys Arg Phe Leu Val Gln Glu Asp Lys Pro Ala Cys
 60 65 70

gtc tgc cat tct ggg tac gtt ggt gca cgc tgt gag cat gcg gac ctc 292
 Val Cys His Ser Gly Tyr Val Gly Ala Arg Cys Glu His Ala Asp Leu
 75 80 85

ctg gcc gtg gtc gct gcc agc cag aag aag cag gcc atc acc gcc ttg 340
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 90 95 100

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 Val Val Val Ser Ile Val Ala Leu Ala Val Leu Ile Ile Thr Cys Val
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ctg ata cac tgc tgc cag gtc cga aaa cac tgt gag tgg tgc cgg gcc 436
 Leu Ile His Cys Cys Gln Val Arg Lys His Cys Glu Trp Cys Arg Ala
 120 125 130 135

ctc atc tgc cgg cac gag aag ccc agc gcc ctc ctg aag gga aga acc 484
 Leu Ile Cys Arg His Glu Lys Pro Ser Ala Leu Leu Lys Gly Arg Thr
 140 145 150

gct tgc tgc cac tca gaa aca gtg gtc tga agagccaga ggaggagtt 534
 Ala Cys Cys His Ser Glu Thr Val Val
 155 160

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<223> Human TGF- alpha

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20 25 30
Asp Pro Pro Val Ala Ala Val Val Ser His Phe Asn Asp Cys Pro
35 40 45
Asp Ser His Thr Gln Phe Cys Phe His Gly Thr Cys Arg Phe Leu Val
50 55 60
Gln Glu Asp Lys Pro Ala Cys Val Cys His Ser Gly Tyr Val Gly Ala
65 70 75 80
Arg Cys Glu His Ala Asp Leu Leu Ala Val Val Ala Ala Ser Gln Lys
85 90 95
Lys Gln Ala Ile Thr Ala Leu Val Val Ser Ile Val Ala Leu Ala
100 105 110
Val Leu Ile Ile Thr Cys Val Leu Ile His Cys Cys Gln Val Arg Lys
115 120 125
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130 135 140
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<211> 3776
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<213> Mus musculus

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<222> (91)..(570)

<220>
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<223> Murine TGF-alpha

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Met Val Pro Ala Thr Gly Gln Leu			
1	5		
gct ctg cta gcg ctg ggt atc ctg tta gct gtg tgc cag gct ctg gag	162		
Ala Leu Leu Ala Leu Gly Ile Leu Leu Ala Val Cys Gln Ala Leu Glu			
10	15	20	
aac agc aca tcc ccc ctg agt gac tca ccc gtg gcg gct gca gtg gtg	210		
Asn Ser Thr Ser Pro Leu Ser Asp Ser Pro Val Ala Ala Ala Val Val			
25	30	35	40
tct cac ttc aac aag tgc cca gat tcc cac act cag tac tgc ttc cat	258		
Ser His Phe Asn Lys Cys Pro Asp Ser His Thr Gln Tyr Cys Phe His			
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gga acc tgc cgg ttt ttg gtg cag gaa gag aag cca gca tgt gtc tgc	306		
Gly Thr Cys Arg Phe Leu Val Gln Glu Glu Lys Pro Ala Cys Val Cys			
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cac tct ggg tac gtg ggt gtt cgc tgt gag cat gca gac ctc ctg gct	354		
His Ser Gly Tyr Val Gly Val Arg Cys Glu His Ala Asp Leu Leu Ala			
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gtg gtg gct gcc agc cag aag caa gcc atc act gcc ctg gtg gtg	402		
Val Val Ala Ala Ser Gln Lys Lys Gln Ala Ile Thr Ala Leu Val Val			
90	95	100	
gtc tcc att gtg gcc ctg gct gtc ctc att atc acc tgt gtg ctg atc	450		
Val Ser Ile Val Ala Leu Ala Val Leu Ile Ile Thr Cys Val Leu Ile			
105	110	115	120
cac tgc tgt cag ctc cgc aaa cac tgt gag tgg tgc cgt gcc ctc gtc	498		
His Cys Cys Gln Leu Arg Lys His Cys Glu Trp Cys Arg Ala Leu Val			
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tgc aga cat gag aag ccc agc gcc ctc ctg aag gga agg act gct tgc	546		
Cys Arg His Glu Lys Pro Ser Ala Leu Leu Lys Gly Arg Thr Ala Cys			
140	145	150	
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Cys His Ser Glu Thr Val Val			
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 <213> Mus musculus

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 <223> Murine TGF-alpha

<400> 32

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Ser	Pro	Val	Ala	Ala	Ala	Val	Val	Ser	His	Phe	Asn	Lys	Cys	Pro	Asp
															45
Ser	His	Thr	Gln	Tyr	Cys	Phe	His	Gly	Thr	Cys	Arg	Phe	Leu	Val	Gln
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Glu	Glu	Lys	Pro	Ala	Cys	Val	Cys	His	Ser	Gly	Tyr	Val	Gly	Val	Arg
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65															
70															
75															

Cys Glu His Ala Asp Leu Leu Ala Val Val Ala Ala Ser Gln Lys Lys
85 90 95
Gln Ala Ile Thr Ala Leu Val Val Val Ser Ile Val Ala Leu Ala Val
100 105 110
Leu Ile Ile Thr Cys Val Leu Ile His Cys Cys Gln Leu Arg Lys His
115 120 125
Cys Glu Trp Cys Arg Ala Leu Val Cys Arg His Glu Lys Pro Ser Ala
130 135 140
Leu Leu Lys Gly Arg Thr Ala Cys Cys His Ser Glu Thr Val Val
145 150 155

<210> 33
<211> 144
<212> PRT
<213> Unknown

<220>
<223> Mammalian Slit1_LRRs1 amino acid sequence from Fig.11

<400> 33

Asn Thr Glu Arg Leu Glu Leu Asn Gly Asn Asn Ile Thr Arg Ile His
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Lys Asn Asp Phe Ala Gly Leu Lys Gln Leu Arg Val Leu Gln Leu Met
20 25 30

Glu Asn Gln Ile Gly Ala Val Glu Arg Gly Ala Phe Asp Asp Met Lys
35 40 45

Glu Leu Glu Arg Leu Arg Leu Asn Arg Asn Gln Leu His Met Leu Pro
50 55 60

Glu Leu Leu Phe Gln Asn Asn Gln Ala Leu Ser Arg Leu Asp Leu Ser
65 70 75 80

Glu Asn Ala Ile Gln Ala Ile Pro Arg Lys Ala Phe Arg Gly Ala Thr
85 90 95

Asp Leu Lys Asn Leu Arg Leu Asp Lys Asn Gln Ile Ser Cys Ile Glu
100 105 110

Glu Gly Ala Phe Arg Ala Leu Arg Gly Leu Glu Val Leu Thr Leu Asn
115 120 125

Asn Asn Asn Ile Thr Thr Ile Pro Val Ser Ser Phe Asn His Met Pro
130 135 140

<210> 34
<211> 120
<212> PRT
<213> Unknown

<220>
<223> Mammalian Slit1_LRRs2 amino acid sequence from Fig.11

<400> 34

Thr Met Thr Glu Ile Arg Leu Glu Leu Asn Gly Ile Lys Ser Ile Pro
1 5 10 15

Pro Gly Ala Phe Ser Pro Tyr Arg Lys Leu Arg Arg Ile Asp Leu Ser
20 25 30

Asn Asn Gln Ile Ala Glu Ile Ala Pro Asp Ala Phe Gln Gly Leu Arg
35 40 45

Ser Leu Asn Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr Asp Leu Pro
50 55 60

Arg Gly Val Phe Gly Gly Leu Tyr Thr Leu Gln Leu Leu Leu Leu Asn
65 70 75 80

Ala Asn Lys Ile Asn Cys Ile Arg Pro Asp Ala Phe Gln Asp Leu Gln
85 90 95

Asn Leu Ser Leu Leu Ser Leu Tyr Asp Asn Lys Ile Gln Ser Leu Ala
100 105 110

Lys Gly Thr Phe Thr Ser Leu Arg
115 120

<210> 35
<211> 96
<212> PRT
<213> Unknown

<220>
<223> Mammalian Slit1_LRRs3 amino acid sequence from Fig.11

<400> 35

His Leu Lys Lys Ile Asn Leu Ser Asn Asn Lys Val Ser Glu Ile Glu

1

5

10

15

Asp Gly Ala Phe Glu Gly Ala Ala Ser Val Ser Glu Leu His Leu Thr
20 25 30

Ala Asn Gln Leu Glu Ser Ile Arg Ser Gly Met Phe Arg Gly Leu Asp
35 40 45

Gly Leu Arg Thr Leu Met Leu Arg Asn Asn Arg Ile Ser Cys Ile His
50 55 60

Asn Asp Ser Phe Thr Gly Leu Arg Asn Val Arg Leu Leu Ser Leu Tyr
65 70 75 80

Asp Asn Gln Ile Thr Thr Val Ser Pro Gly Ala Phe Asp Thr Leu Gln
85 90 95

<210> 36

<211> 72

<212> PRT

<213> Unknown

<220>

<223> Mammalian Slit1_LRRs4 amino acid sequence from Fig.11

<400> 36

Tyr Leu Gln Leu Val Asp Leu Ser Asn Asn Lys Ile Ser Ser Leu Ser
1 5 10 15

Asn Ser Ser Phe Thr Asn Met Ser Gln Leu Thr Thr Leu Ile Leu Ser
20 25 30

Tyr Asn Ala Leu Gln Cys Ile Pro Pro Leu Ala Phe Gln Gly Leu Arg
35 40 45

Ser Leu Arg Leu Leu Ser Leu His Gly Asn Asp Ile Ser Thr Leu Gln
50 55 60

Glu Gly Ile Phe Ala Asp Val Thr
65 70

<210> 37

<211> 145

<212> PRT

<213> Unknown

<220>

<223> Mammalian NOGO_R amino acid sequence from Fig.11

<400> 37

Leu Leu Glu Gln Leu Asp Leu Ser Asp Asn Ala Gln Leu Arg Ser Val
1 5 10 15

Asp Pro Ala Thr Phe His Gly Leu Gly Arg Leu His Thr Leu His Leu
20 25 30

Asp Arg Cys Gly Leu Gln Glu Leu Gly Pro Gly Leu Phe Arg Gly Leu
35 40 45

Ala Ala Leu Gln Tyr Leu Tyr Leu Gln Asp Asn Ala Leu Gln Ala Leu
50 55 60

Pro Asp Asp Thr Phe Arg Asp Leu Gly Asn Leu Thr His Leu Phe Leu
65 70 75 80

His Gly Asn Arg Ile Ser Ser Val Pro Glu Arg Ala Phe Arg Gly Leu
85 90 95

His Ser Leu Asp Arg Leu Leu Leu His Gln Asn Arg Val Ala His Val
100 105 110

His Pro His Ala Phe Arg Asp Leu Gly Arg Leu Met Thr Leu Tyr Leu
115 120 125

Phe Ala Asn Asn Leu Ser Ala Leu Pro Thr Glu Ala Leu Ala Pro Leu
130 135 140

Arg
145

<210> 38

<211> 148

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<223> AMIGO amino acid sequence from Fig.11

<400> 38

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Ala Glu Trp Thr Pro Thr Arg Leu Thr Gln Leu His Ser Leu Leu Leu
20 25 30

Ser His Asn His Leu Asn Phe Ile Ser Ser Glu Ala Phe Ser Pro Val
35 40 45

Pro Asn Leu Arg Tyr Leu Asp Leu Ser Ser Asn Gln Leu Arg Thr Leu
50 55 60

Asp Glu Phe Leu Phe Ser Asp Leu Gln Val Leu Glu Val Leu Leu Leu
65 70 75 80

Tyr Asn Asn His Ile Met Ala Val Asp Arg Cys Ala Phe Asp Asp Met
85 90 95

Ala Gln Leu Gln Lys Leu Tyr Leu Ser Gln Asn Gln Ile Ser Arg Phe
100 105 110

Pro Leu Glu Leu Val Lys Glu Gly Ala Lys Leu Pro Lys Leu Thr Leu
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Xaa Asn Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Phe Xaa Xaa Leu Xaa
35 40 45

Xaa Leu Xaa Xaa Leu Xaa Leu Xaa Xaa Asn Xaa Leu Xaa Xaa Xaa

50

55

60

Xaa Xaa Phe Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Leu Xaa Leu Xaa Xaa
65 70 75 80

Asn Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Phe Xaa Xaa Leu Xaa
85 90 95

Xaa Leu Xaa Xaa Leu Xaa Xaa Asn Xaa Leu Xaa Xaa Xaa Xaa
100 105 110

Xaa Xaa Xaa Phe Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Leu Xaa Leu Xaa
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Xaa Xaa Xaa